THE INFLUENCE OF PREJUDICE ON THE FORMATION
OF STEREOTYPES ABOUT THE OUTGROUP

By

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The purpose of my dissertation was to investigate the causal relationship between

stereotypes and prejudice. Many social psychologists assume that negative stereotypes

cause prejudice, and therefore, in order to eliminate prejudice, focus their research efforts

on understanding the social or cognitive mechanisms responsible for stereotype formation.

In contrast to this prevailing assumption, I propose that negative stereotypes are the result

rather than the cause of prejudice. More precisely, I believe that negative stereotypes

develop in order to justify one's negative feelings toward another group. In order to test

this justification hypothesis, I placed participants into artificial groups and had them rate

their feelings toward their own group (i.e., the ingroup) and the other group (i.e., the

outgroup) prior to learning the attributes of that group. After rating their feelings toward

each group, participants read an ambiguous description about the group and were then

asked to provide their impressions of that group by writing down six descriptive words. Finally, participants rated the valence of each word they reported. Results supported the justification hypothesis. That is, participants' feelings toward the outgroup predicted the overall valence of the traits they assigned to the outgroup. Implications for future research and strategies for the reduction of prejudice are discussed.

INTRODUCTION

The link between stereotypes and prejudice seems intuitive. It is generally assumed that we acquire stereotypes through socialization; that is, we may learn about other groups from our parents, friends, community, the media, and other sources. Unfortunately, most of the stereotypes perpetuated in our society are negative, especially ethnic stereotypes. African Americans are lazy; Jews are conniving; Anglo Americans are conceited; Latinos are hostile; Asians are timid. The list could go on. Nonethnic categories, of course, are not impervious, as one could easily think of negative stereotypes that are commonly ascribed to gay men, lesbians, lawyers, politicians, women, men, and so on. Thus the root of our own prejudices appears obvious. As we acquire negative beliefs about another group, we come to dislike the group on the basis of the perceived negative characteristics of the group. For example, a northerner might have been taught to believe that southerners are racist and unaccepting, and therefore concludes that he or she does not like southerners only after considering these traits, but not prior. Many contemporary social psychologists assume that this causal relationship exists (e.g., Esses, Haddock, & Zanna, 1993; Hamilton, 1981; Smith, 1993), and therefore, in an effort to pull out the roots of prejudice, focus their research on the development and use of stereotypes (see Hamilton & Trolier, 1986).

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However, early theorists of intergroup relations challenged the lay assumption that negative stereotypes result in prejudice, and instead proposed that the converse is more true (Allport, 1954/1979; D. T. Campbell, 1967; Merton, 1949; Zawadzki, 1948). According to Donald Campbell (1967):

> The social scientist sees the opposite causal direction: Causally, first is the hostility toward the outgrouper . . . . In the service of this hostility, all possible differences are opportunistically interpreted as despicable . . . . So flexible is our emotional language that a difference in almost any direction can be anathematized. An outgroup can be hated as too lazy or as too industrious, as too dumb or as too shrewd, as too forward or as too reclusive, as too emotional or as too cold, as too generous or as too thrifty. (p. 825)

In other words, Campbell believed that negative stereotypes were justifications for the hostility (i.e., prejudice) one felt toward the outgroup. He argued that one could conceivably change a person's stereotype of a group, but this would not remove the hostility, and eventually a new negative stereotype would replace the old one. Over a decade earlier, Allport (1954/1979) wrote in his influential book, The Nature of Prejudice, "[Stereotypes] are primarily rationalizers. They adapt to the prevailing temper of prejudice or the needs of the situation" (p. 204).

Despite the appeal of such a theory, no research has yet been conducted to test whether prejudice does indeed lead to the formation of negative stereotypes. This may have been due to the emergence of the cognitive approach in social psychology which shifted the focus of intergroup research away from motivational and affective determinants. According to the cognitive perspective, stereotypes are the result of normal, efficient, even automatic and unintentional (Hamilton & Trolier, 1986; E. E. Jones et al., 1984; S. E. Taylor, Fiske, Etcoff, & Ruderman, 1978), cognitive processes

(Ashmore & Del Boca, 1981; Hamilton, 1979, 1981; Tajfel, 1969, 1981; S. E. Taylor, 1981). This view holds that people have limited mental capacity, and in an effort to maximize cognitive resources, will avoid the lengthier process of individuation and instead fall back on the use of more efficient but less accurate cognitive heuristics and social categories. Thus, negative stereotypes do not develop so much out of animosity toward the outgroup as out of laziness in perceiving others as individuals. This led Hamilton (1981) to conclude that because categorization and stereotyping were the natural consequences of social perception, prejudice was inevitable.

Stereotypes certainly serve the function of cognitive efficiency. However, this view need not be incompatible with theories delineating the affective or motivational antecedents of stereotypes. Indeed, Henri Tajfel, considered to be the father of the cognitive approach to prejudice and intergroup conflict, was simultaneously the greatest advocate of a motivational explanation of these processes (i.e., social identity theory, see Tajfel, 1982; Tajfel & Turner, 1986). Furthermore, recent theory and research in social cognition has begun to reexamine the role of affect and motivation in cognition (see Sorrentino & Higgins, 1990) and more specifically stereotyping (see D. M. Mackie & Hamilton, 1993). This has prompted some theorists to reconsider the causal relationship between stereotypes and prejudice (Stephan & Stephan, 1993) and the idea that negative stereotypes may be the result, rather than the cause, of prejudice (Dijker, 1989; Jussim, McCauley, & Lee, 1995; Vanman & Miller, 1993).

The goal of my dissertation was to revitalize and test the hypothesis that prejudice can lead to the formation of negative stereotypes. Specifically, I explored the influence negative feelings toward a particular group have on the formation of subsequent beliefs about the group when those feelings are created prior to any knowledge or stereotype of that group. Before I present this research, I will define the difference between stereotypes and prejudice and review the present literature on stereotype formation. Next, I will present the view that stereotypes serve to justify people's feelings toward another group as well as research and theory relevant to this perspective. After describing the methodology used to test this hypothesis, I will present and discuss the results of the study. Finally, I will summarize this new perspective and address its implications for future research and application.

REVIEW OF LITERATURE

The Difference Between Stereotypes and Prejudice

Although stereotypes and prejudice are assumed to be related, most theorists agree that they are not equivocal. Nonetheless, the present theory and research requires that I clearly distinguish the two, or else I run the risk of a tautology.[1] In order to do so, I present the etymology of each term to demonstrate their separate origins and then present the major distinctions between the current definitions of prejudice and stereotypes.

The original meaning of the term, stereotype, had little to do with social perception. Prior to the publication of Walter Lippmann's book, Public Opinion, in 1922, a stereotype was the master plate in a printing press used to make copies of the original type onto paper. Lippmann borrowed the term to refer to what he called the "pictures in our heads" (p. 3). He proposed that we construct general "pictures" of reality in our mind that are not entirely accurate but rather aid our understanding of reality by simplifying it. Though helpful in processing information about a complex world, Lippmann noted that stereotypes bias our perceptions of others on the basis of their group membership. Like the stereotype of a printing press stamping a blank page, the stereotype in our mind "stamps" each new person we encounter as a duplicate of the group to which he or she

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[1] I thank Cheryl Logan for pointing out this potential problem.

belongs. Thus, our perception of the person is based on our preconception of the group rather than the reality before us.

Lippmann's conception of a stereotype has changed little over the past 75 years. Today, many social psychologists continue to define a stereotype as a set of beliefs that describe the attributes of members of a particular social category (Ashmore & Del Boca, 1981; Brigham, 1971; J. M. Jones, 1997). Stereotypes contain both defining features used to categorize others into social groups, and characteristic features, or traits, used to predict and explain behavior (Stephan, 1985). However, there is some disagreement over whether stereotypes are, by definition, individual- or group-level phenomena. That is, some researchers (e.g., Brigham, 1971; Esses, Haddock, & Zanna, 1993; McCauley & Stitt, 1978) consider a stereotype to be the same as a single person's knowledge or schema of a social group--in other words, a personal stereotype. Others (e.g., Gardner, 1994; Gardner, Kirby, & Finlay, 1973; M. Mackie, 1973) argue that the term, stereotype, should be reserved for those beliefs about a social group that are shared among members of a group, community, or society--in other words, a cultural stereotype. The distinction is important because, although most members of a given society have knowledge of the cultural stereotype associated with a particular social group (Augoustinos, Innes, & Ahrens, 1994; Devine, 1989; Lepore & Brown, 1997), their personal stereotype or schema of the group may differ greatly from the cultural stereotype (Brown & Boniecki, 1997). Keeping with Lippmann's intended meaning and for purposes of consistency, I will use the term, stereotype, when referring to an individual's personal beliefs of a group, and the term, cultural stereotype, when referring to a society's consensual beliefs of a group.

In contrast, the term prejudice has had a longer history and has changed considerably in meaning over time. According to Allport (1954/1979), the word prejudice is derived from the Latin noun, praejudicium, which refers to a judgment based on prior decisions--in other words, a precedent. Later, the term came to mean, in English, a premature or unfounded judgment--that is, a judgment made prior to careful consideration of the facts. Thus, this early definition of prejudice, applied to the domain of intergroup perception, would have been similar to Lippmann's later conception of a stereotype. However, Allport notes that the term, prejudice, continued to transform, acquiring an emotional flavor of favorableness or unfavorableness associated with the unwarranted judgment. As social science began to focus attention on the problems of intergroup conflict and racism during this century, two major changes occurred to the definition. First, the term became even further restricted to mean only an unfavorable feeling toward another group. In 1954, Allport (1954/1979) defined prejudice as "an avertive [sic] or hostile attitude toward a person who belongs to a group, simply because he belongs to that group" (p. 7). Second, as psychologists struggled to operationalize prejudice, the criteria that prejudice was irrational and unwarranted became difficult to measure and was eventually dropped from the definition (Stephan, 1985).

Today, prejudice is typically defined as a negative attitude[2] (Esses et al., 1993; Dovidio & Gaertner, 1986; Stephan, 1985), feeling (McConahay, 1986), or emotion

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[2]Although a precise definition of an attitude has been debated in its own right (see Zanna & Rempel, 1988), an attitude, as it is defined in the prejudice literature, refers to an overall, positive/negative evaluation of a stimulus object (see Esses, Haddock, & Zanna, 1993).

(Smith, 1993) directed toward members of a particular social category. Whether an attitude (e.g., "I do not like Xs"), a feeling (e.g., "I hate Xs"), or an emotion (e.g., "Xs make me angry"), prejudice can be more generally defined as a negative affective reaction to the real or imagined members of an outgroup. Thus, the primary distinction between stereotypes and prejudice is that stereotypes are considered knowledge structures (i.e., schemas) that implicate the target of the stereotype, whereas prejudice is a negative affective response (e.g., dislike, hate, anger, disgust) that implicates the self (Zajonc, 1980). That is, to the perceiver, a stereotype describes those characteristics that are inherent to the group ("Xs are dishonest"), whereas prejudice describes the perceiver's own reaction to the group ("I do not like Xs").

Another distinguishing feature of these definitions is that affective reactions tend to be irrevocable, in contrast to knowledge structures (Zajonc, 1980). That is, one's feelings cannot be wrong, but one's knowledge can. If I do not like spinach, there is very little (if anything) a person can say about spinach that would convince me that I was mistaken--in other words, that I actually do like spinach. However, one might easily change my opinion that spinach is bad for me by presenting disconfirming evidence concerning spinach's nutritional value. Likewise, if I do not like Xs, my feeling is not phenomenologically wrong, although one may be able to convince me that Xs are indeed honest. The implication is that prejudice may be less vulnerable to persuasion than stereotypes. As Allport (1954/1979) warned, "defeated intellectually, prejudice lingers emotionally" (p. 328).

<u>Approaches to Stereotype Formation</u>

Following Lippmann's (1922) assertion that stereotypes bias social perception, a considerable amount of research has focused on the detrimental consequences of stereotypes. For instance, stereotypes create expectancies that facilitate the encoding and recall of stereotype-consistent information over stereotype-inconsistent information (e.g., Bodenhausen, 1988; Cohen, 1981; Fiske & Taylor, 1991; Hamilton & Rose, 1980). Also, ambiguous behaviors committed by a target tend to be interpreted as consistent with the stereotype (e.g., Darley & Gross, 1983; Devine, 1989). Furthermore, stereotypes can create differential standards by which people from different social categories are judged (Biernat, Manis, & Nelson, 1991; Fiske, Bersoff, Borgida, Deaux, & Heilman, 1991), and may actually elicit stereotype-consistent behaviors from the target (Word, Zanna, & Cooper, 1974).

In contrast, other research has focused on the causes of stereotypes. Implicit in Lippmann's original conception and explicit in more contemporary definitions is the notion that stereotypes are the result of people's normal tendency to categorize their social environment (Allport, 1954/1979; Ashmore & Del Boca, 1981; Hamilton, 1979, 1981; Hamilton & Sherman, 1994; Hamilton & Trolier, 1986; N. Miller & Brewer, 1986; Oakes & Turner, 1990; S. E. Taylor, 1981). In other words, if we did not categorize people into groups, by definition, stereotypes would not exist. However, people categorize their environment, social or nonsocial, in an effort to reduce the complexity and amount information to be processed (see Hamilton & Sherman, 1994). Thus, social categorization and stereotyping ultimately serve the function of cognitive efficiency. Again, this idea

dates back to Lippmann's reasoning that stereotypes develop in order to simplify our understanding of the social environment.

This cognitive efficiency explanation of stereotyping is generally accepted, and supported by research. For example, Rothbart, Fulero, Jensen, Howard, and Birrell (1978) presented varying degrees of information describing the attributes of separate individuals. They found that, when the number of person-attribute pairings (e.g., John is dull) was small (low memory load condition), participants organized the information around each separate individual. However, when the number of person-attribute pairings was large (high memory load condition), participants organized the information into groups of individuals, thereby creating stereotypes associated with those groups.

Although cognitive efficiency explains <u>why</u> stereotypes form, it does not specify <u>what</u> stereotypes form. That is, how do stereotypes of particular groups develop and why do those stereotypes develop rather than other stereotypes? For instance, the early research by D. Katz and Braly (1933) on White Americans' ethnic stereotypes found that most respondents perceived African Americans as superstitious and lazy, and perceived Jews as shrewd and mercenary. Cognitive efficiency alone does not explain why respondents endorsed these particular stereotypes rather than others.

Socialization

One popular explanation for the development of specific stereotype content is that people learn their stereotypes through socialization. Socialization is a process by which an individual willingly conforms to the values, beliefs, and behavioral norms of the society or group to which he or she belongs (Clausen, 1968). Parents are the first, and perhaps the

most influential socializing agents in a person's life. Indeed, research by Rohan and Zanna (1996) found that the values of college students were positively correlated with the values of their parents ($r = .54$), and that this correlation was significantly greater than the correlation of the students' values with the values of other randomly chosen adults from the community ($r = .44$). Thus, it is often assumed that our stereotypes of other groups were learned from our parents. Unfortunately, very little research has directly examined this assumption. Although considerable evidence suggests that children are aware of common social categories, such as gender and race, and have already developed stereotypes of those categories between the ages of two and five (Aboud, 1988; Brigham, 1971; Fagot, Leinbach, & O'Boyle, 1992; P. A. Katz, 1976; Martin & Little, 1990; Proshansky, 1966), evidence that this knowledge is directly or indirectly conveyed by the child's parents is scanty and inconsistent (see P. A. Katz, 1976).

Of course, parents are not the only source of socialization. Siblings, friends, community members, and the media also contribute to the formation of a person's beliefs and values. Note that, in the study by Rohan and Zanna (1996) mentioned in the previous paragraph, the correlation of students' values with those of random community members, although less than the correlation of students values with their parents' values, was still moderate in size. Thus, our stereotypes are not only a product of our up-bringing, but might also be a product of the wider culture in which we live. In fact, Lippmann (1922) originally proposed that stereotypes are acquired from one's culture, and it has been a general assumption of the stereotyping literature ever since. Specifically, the mass media in the form of print, radio, television, and motion pictures is largely accused as the primary

cultural culprit in perpetuating stereotypes of women, various minority groups, and people outside the United States.

Sometimes these stereotypes are conveyed indirectly. For example, two-thirds of the photographs of men in popular newspapers and magazines around the world focus on the face, whereas less than half of the photographs of woman focus on the face (Archer, Iritani, Kimes, & Barrios, 1983; Nigro, Hill, Gelbein, & Clark, 1988). Because the more prominent a person's face is displayed in a photo the more intelligent and ambitious that person is judged (Schwarz & Kurz, 1989), this observed face-ism in print media may implicitly convey the stereotype that woman are less capable of success. Many times, however, stereotypes are conveyed more directly. According to Allport (1954/1979), early portrayals of African Americans in light fiction, radio broadcasts, and movies depicted them as lazy and comical (e.g., the popular radio show of the 1930s, Amos 'n' Andy). Furthermore, portrayals in advertisements and television of the 1950s depicted African Americans in subordinate roles to Whites--usually as maids, cooks, or servants--if they depicted African Americans at all (see Dovidio & Gaertner, 1986). These portrayals nearly disappeared by the 1970s but new images of African Americans as angry, hostile, and prone to violence became prevalent (see J. M. Jones, 1997). Thus, it is no wonder, given the decades of stereotyped portrayals in the mass media, that most Whites have knowledge of the cultural stereotype of African Americans regardless of their own racial stereotypes or attitudes (Devine, 1989). Of course, African Americans have not been the only victims of blatant stereotyping in the media: Native Americans continue to be

portrayed as savages (Trimble, 1988); Muslims are depicted as fanatical (Shaheen, 1990; cited in Myers, 1996); and gay men are portrayed as weak and immoral (Gross, 1991).

Dovidio and Gaertner (1986) point out that changes in White Americans' racial attitudes and stereotypes over the decades have co-varied with similar changes in the media's portrayals of African Americans. Thus, the prevailing cultural stereotypes of groups depicted in the media are certainly related to people's personal beliefs about those groups. However, this raises a crucial question: Are media portrayals of various groups the cause or the result of people's stereotypes? The typical answer to this question is, both (J. M. Jones, 1997). That is, stereotypes and media portrayals of groups are probably reciprocally determined. For many people, their only experience and knowledge of other groups and nationalities comes from what they see at the movies and on television, and what they read in newspapers or magazines. So it is no surprise that they form a stereotyped view of these groups. But some of these people are writers, editors, and producers that continue to perpetuate the stereotypes they learn through portrayals of these groups in their own work. Thus, stereotypes and the media seem locked in a never ending cycle--both cause and effect. This issue begs another question which, at its heart, is the major criticism of the socialization explanation of stereotypes: How did it all start? That is, if one's stereotypes are acquired from one's parents, community, and the media, how did they acquire their stereotypes? Socialization is able to explain how the same stereotypes might be held by people in Macon, Georgia, as in Peoria, Illinois, or how the same stereotypes can be passed from one generation to the next, but it still fails to explain how these stereotypes were created in the first place.

Kernels of Truth

Another possible explanation for stereotype formation is offered by the kernel-of-truth hypothesis (Klineberg, 1935). According to this view, stereotypes have some basis in reality. That is, although stereotypes are obvious overgeneralizations, they do reflect real, even if small, group differences. For example, one commonly held gender stereotype is that women are shorter than men. Although the tallest woman is taller than the shortest man, it is true that the average height of a woman is less than the average height of man-- thus, the kernel of truth.

The kernel-of-truth hypothesis has received some empirical and theoretical support in the literature (Levine & Campbell, 1972; M. Mackie, 1973; McCauley & Stitt, 1978; Mead, 1956; Triandis & Vassiliou, 1967; Vinacke, 1956). For instance, McCauley and Stitt (1978) asked respondents to estimate the proportion of African Americans as well as the proportion of Americans overall that fit common characteristics of the cultural stereotype of African Americans (e.g., unemployed, on welfare, four or more children). By dividing the estimated proportion of African Americans by the estimated proportion of Americans, they calculated a diagnostic ratio reflecting the degree to which these characteristics were perceived as more or less prevalent for African Americans relative to the general population. McCauley and Stitt compared respondents' diagnostic ratios to objective criterion ratios computed using information from the U.S. Bureau of the Census and the Department of Labor. They found that respondents' ratios did not significantly differ from the criterion ratios, indicating that respondents accurately perceived the prevalence of the characteristics for African Americans relative to the general population.

Nonetheless, the kernel-of-truth hypothesis and the question of stereotype accuracy has been controversial (see Brigham, 1971). Opponents of the hypothesis typically cite an early study by LaPiere (1936). In California during the 1920s, Armenian laborers were perceived to be dishonest, lying, deceitful troublemakers. However, LaPiere discovered that Armenians were, in fact, indicted less for crimes, applied less often for charity, and had equally good credit ratings compared to other ethnic groups. Thus, non-Armenian Californians seemed to develop a stereotype of Armenians with little if any basis in fact. A more contemporary instance of stereotype inaccuracy is the all-too-common belief that drug-abuse is primarily an African American problem and that African Americans are more likely to use drugs than White Americans. For example, when asked during the 1990 Democratic primary for the Massachusetts governor's race why he did not take his "tough on crime" message to African-American neighborhoods, candidate John Silber replied, "There is no point in my making a speech on crime control to a bunch of addicts" (Chideya, 1995). Besides being insensitive, Silber's remark was clearly based on a misguided belief. Overall, White Americans are no more likely to have ever tried drugs than African Americans, and between the ages of 12 and 34, Whites are in fact _more_ likely to have used drugs than African Americans. Even the popular media portrayal of crack users as young, inner-city, African Americans is misleading given that only 2.8 percent of African American between the ages of 18 and 25 have ever smoked crack, while 3.3 percent of Whites of the same age have admitted to using the drug (Chideya, 1995). Thus, although evidence suggests that some stereotypes may contain kernels of truth, it is certainly not the case that all do.

Illusory Correlations

  A third explanation for the formation of stereotypes has been offered by Hamilton
(1979, 1981; Hamilton & Gifford, 1976; Hamilton & Sherman, 1989, 1994; Hamilton &
Trolier, 1986). Specifically, he proposed that negative stereotypes about various minority
groups are the result of distinctive-based illusory correlations. Distinctive-based illusory
correlations result when two distinctive (i.e., salient) events occur at the same time. Even
if the co-occurrence of these two distinctive events is no more likely than the co-
occurrence of any other two events, people will perceive an association between them
because the two distinctive events will be more accessible in memory (see Chapman,
1967). According to Hamilton, minority-group members (e.g., African Americans) are
distinctive because they are infrequent relative to majority-group members (e.g., White
Americans). Likewise, negative behaviors (e.g., committing crimes) are distinctive
because they also are infrequent relative to positive behaviors (Parducci, 1968). Thus, the
paired distinctiveness of a minority member engaging in a negative behavior may create
the illusory perception that members of the minority group are more likely to commit that
negative behavior, even if that is not the case.

  To test the illusory correlation hypothesis, Hamilton and Gifford (1976) had
participants read a series of statements about members from two groups: Group A and
Group B. There were twice as many statements about Group A than about Group B.
Thus, Group A was the majority group and Group B was the minority group.
Furthermore, each statement described one of the group members engaging in either a
positive behavior (e.g., "John, a member of Group A, visited a sick friend in the hospital.")

or a negative behavior (e.g., "Bill, a member of Group B, is usually late to work."). There were more positive behaviors than negative behaviors; however, the ratio of negative behaviors to positive behaviors was the same for each group (i.e., Group A committed 18 positive acts and 8 negative acts, whereas Group B committed only 9 positive acts and 4 negative acts). Thus, it was just as likely that Group B engaged in a negative act as it was that Group A engaged in a negative act. After participants read all the statements, they were asked to estimate the frequency of negative and positive acts committed by each group.

What Hamilton and Gifford found supported their hypothesis. Although participants accurately estimated the number of positive behaviors committed by each group, they overestimated the number of negative behaviors committed by the minority group (Group B) and underestimated the number of negative behaviors committed by the majority group (Group A). In fact, participants estimated that the minority group had committed a greater frequency of negative behaviors than the majority group, when in actuality they had committed fewer. Furthermore, when asked to rate each group along several social- and intellectual-related traits, Group B was rated higher on negative traits and lower on positive traits than was Group A.

In a second experiment, Hamilton and Gifford (1976) demonstrated that the illusory correlation effect was indeed based on paired distinctiveness, rather than a bias toward perceiving minority groups negatively. The procedure remained the same as the first experiment, except that in the second experiment the negative behaviors outnumbered the positive behaviors. Thus, participants should, in this case, form an illusory correlation

between minority members and positive behaviors. That is exactly what Hamilton and Gifford discovered. Participants accurately estimated the frequency of negative behaviors committed by the minority group, but overestimated the frequency of positive behaviors committed by the minority group. This finding also demonstrates how positive stereotypes of minority groups may develop. For example, the common stereotype of African Americans as musical and athletic (see Devine, 1989) may be due to the relative distinctiveness of musicians and athletes to other occupations.

The illusory correlation effect appears due to biased recall of the groups attributes during judgment rather than biased attention at encoding (Sanbonmatsu, Sherman, & Hamilton, 1987). That is, it is not the case that the paired distinctiveness of minority members and infrequent behaviors is attended to more and therefore more likely to be encoded. When participants are directly asked if a particular behavior was committed by Group A or Group B (i.e., cued recall), participants are able to remember regardless of the distinctiveness of the pairing. Thus all information is equally stored in memory. However, paired distinctiveness affects the accessibility of that information when participants are later required to make an estimate of its occurrence or make a judgment about one of the groups. In addition, the illusory correlation effect shows considerable generalizability across trait domains. That is, when participants form a negative impression of a group in one domain (e.g., the intellectual domain), they tend to generalize this impression to other domains (e.g., the social domain). Thus, illusory correlations produce a holistic view of the group's traits rather than being confined to the behaviors presented in the stimulus materials. Overall, the illusory correlation effect has been well documented and replicated,

and a meta-analysis of these studies suggest that the effect is consistent and moderate in size (Mullen & Johnson, 1990).

Nonetheless, an illusory correlation explanation of stereotype formation appears somewhat one sided. That is, although accounting for the formation of stereotypes about minority groups, this approach does not explain how stereotypes of majority groups form. For instance, one would predict, on the basis of this explanation, that members of the White minority in South Africa did not develop a negative stereotype of the Black majority. Furthermore, this approach is overly cognitive, ignoring the potential influence of motivation. That is, despite recent advances emphasizing the role of motivation in cognitive processes (Sorrentino & Higgins, 1990), a pure illusory correlation explanation simply classifies stereotypes as nothing more than the result of faulty cognitive heuristics.

Social Identity

A fourth explanation of stereotype formation proposes that we categorize others into groups in order to establish our own group's superiority by comparison, thereby promoting a positive social identity. According to social identity theory, people derive their sense of self-esteem, in part, from the groups to which they belong (Tajfel, 1982; Tajfel & Turner, 1986). However, the positive qualities of one's own group can only be assessed relative to the qualities of another group. Thus, people are motivated to perceive differences between the ingroup and outgroup along dimensions that favor the ingroup, while ignoring similarities or differences that do not favor the ingroup. For example, following a professional basketball game, the winning team and their fans may emphasize the difference between the teams in skill, athleticism, and desire to win, while the losing team may emphasize the difference in fair play and injuries. From this perspective, the

categorization of others into groups and the stereotypes we ultimately develop of those groups are inexorably linked to how we categorize and stereotype ourselves (Turner, 1987).

Social identity theory developed as an explanation for the consistent and robust finding that people favor their own group (i.e., the ingroup) over other groups (i.e., outgroups)--otherwise known as ingroup bias (e.g., Brewer & Silver, 1978; Tajfel, 1969; Billig & Tajfel, 1973; Tajfel, Billig, Bundy, & Flament, 1971; for reviews see Brewer, 1979; Messick & Mackie, 1989; Mullen, Brown, & Smith, 1992). This research has typically used a minimal groups paradigm in which participants are randomly assigned to a social category based on bogus feedback unrelated to the dependent measures. Even under these minimal conditions, people strive to establish a positive social identity by evaluating ingroup members more positively than outgroup members (Brewer & Silver, 1978; Doise & Sinclair, 1973; Hinkle & Schopler, 1986; Mummendey & Schreiber, 1984; Mummendey & Simon, 1989). Furthermore, evidence suggests that the more people identify with the ingroup, the more positively they evaluate the ingroup (Hinkle & Brown, 1990) and the more negatively they evaluate the outgroup (Blanz, Mummendey, & Otten, 1995).

This account differs from the other explanations of stereotype formation (i.e., socialization, the kernel-of-truth hypothesis, and illusory correlations) in that social identity theory gives motivation a central role in stereotyping, while the others ignore the role of motivation altogether. However, social identity theory and other explanations of stereotype formation are not necessarily mutually exclusive; in fact, they may work in

tandem. For instance, Schaller and Maass (Study 2, 1989) conducted a study similar to Hamilton and Gifford's (1976) illusory correlation experiment. However, unlike Hamilton and Gifford's study, Schaller and Maass assigned participants to be members of either the minority or majority group and gave participants explicit instructions to form an impression of the two groups. They found that participants formed an illusory correlation, not as a result of the distinctiveness of the minority group, but as a result of group categorization. That is, participants overestimated the frequency of desirable behaviors committed by the ingroup and formed a more positive impression of the ingroup than of the outgroup, regardless of whether the ingroup was the minority or the majority group. Thus, the degree to which one identifies with a particular social category may mediate illusory-correlation based stereotyping (also see Spears, van der Pligt, & Eiser, 1985). Likewise, it is not difficult to imagine how social identity motives may bias what information is learned through socialization or kernels of truth.

Summary

Based on theory and research presented so far, it is easy to see how negative stereotypes about various groups may form. For example, historically, the cultural stereotypes about various salient groups in our society, particularly of minority ethnic groups, have been predominantly negative (Allport, 1954/1979; Devine, 1989; Dovidio & Gaertner, 1986; Karlins, Coffman, and Walters, 1969; D. Katz & Braly, 1933). Thus, people's stereotypes of these groups may be acquired from the prevailing cultural stereotypes through the process of socialization. In addition, historical and cultural inequalities may force certain groups into lower status social niches. These, inequalities,

though unjust, result in real differences between the advantaged group and the disadvantaged group. This social "reality" may be accurately perceived by others and thus a negative stereotype forms of the disadvantaged group. For example, the fact that a higher proportion of African Americans accept welfare relative to the overall American population may lead to the image of African Americans as poor (McCauley & Stitt, 1978). Furthermore, considerable research shows that the paired-distinctiveness of a minority member committing a negative behavior results in an association of the minority group with that behavior, even if this association is illusory (Mullen & Johnson, 1990). For example, the bombing of the Word Trade Center and the Army Barracks in Saudi Arabia may establish or reinforce the belief that Middle Easterners are fanatical terrorists; although, it may be no more (or possibly less) likely that a Middle Easterner than a member of any other ethnic group would bomb anything (as may have become shockingly apparent following the tragedies resulting from the Unabomber and the Oklahoma City bombing). Finally, in an effort to establish a positive social identity with our own group, we may ignore the positive qualities of other groups and, instead, emphasize their negative qualities (Brewer, 1979). Thus, greater ingroup identification may result in the formation of negative stereotypes about the outgroup in order maintain a positive image of the ingroup by comparison (Blanz et al., 1995).

Therefore, these mechanisms--socialization, kernels of truth, illusory correlations, and social identity--appear to bias the social perceiver toward forming negative stereotypes of other groups. From this, little reasoning is required to conclude that these negative stereotypes must result in prejudice. However, such a perspective ignores

another potential mechanism of stereotype formation. That is, negative stereotypes may form in order to justify a person's preexisting prejudice toward the outgroup. This perspective is not necessarily incompatible with the other explanations of stereotype formation. Several theorists have warned that stereotyping and prejudice are multiply determined and any attempt to explain either construct with a single approach is bound to meet limits (Allport, 1954/1979; Hamilton & Trolier, 1986; Pettigrew, 1981). I agree. This dissertation proposes a theoretical approach to the formation of negative stereotypes that is not intended to negate prior theory or research, but rather propose another mechanism that has received little empirical attention in the literature.

The Justification Hypothesis

If any single work can be credited with defining the parameters of prejudice research for generations to come, it would be Gordon Allport's (1954/1979) The Nature of Prejudice (Clark, 1979). In his book, Allport states, "The stereotype acts as a justificatory device for categorical acceptance or rejection of a group, and a screening or selective device to maintain simplicity in perception and in thinking" (p. 192). That stereotypes serve the function of cognitive efficiency is well documented and accepted. However, little empirical evidence exists to support the notion that stereotypes serve as justification for one's prejudice.

Nonetheless, Allports' justification hypothesis[3] rests on two assumptions that have received separate support in the literature outside the domain of prejudice and stereotyping. The first of these assumptions is that affect felt toward a stimulus can be experienced prior to any knowledge of the stimulus's attributes. That is, we can like or dislike something prior to knowing why we like or dislike it. According to the justification hypothesis, reasons in the form of stereotypes follow feelings, not the reverse, thus affect must precede knowledge.

Most recently, Zajonc (1980) is credited with the idea that affective reactions to a stimulus may precede knowledge of that stimulus, though he cites several researchers before him (as far back as Wundt) who proposed the concept. In his landmark paper "Feeling and thinking: Preferences need no inferences," Zajonc (1980) challenged the traditional and perhaps common-sense idea that our affective reactions are necessarily postcognitive (Lazarus, 1982), and proposed that an affective evaluation (i.e., like or dislike) of a stimulus may precede any knowledge or recognition of that stimulus (also see Zajonc & Markus, 1982). Research supporting Zajonc's affective primacy hypothesis has typically come from mere exposure experiments in which participants developed an affective preference for previously novel stimuli (e.g., Chinese ideographs) after repeated presentation. This effect occured even though participants were unable to recognize the

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[3]Although I credit the justification hypothesis to Allport (1954/1979), Zawadzki (1948) may have been the first to propose that stereotypes serve to rationalize one's prejudice towards a group. In addition, other theorists have independently made the same claim (D. T. Campbell, 1967; Merton, 1949) and deserve some recognition for the idea.

stimuli at greater than chance levels (Kunst-Wilson & Zajonc, 1980; Moreland & Zajonc, 1977, 1982).[4]

Recent research by Murphy and Zajonc (1993) further extended and supported the affective primacy hypothesis. In a series of studies, they found that affect-laden stimuli presented at suboptimal exposures (i.e., subliminally) influenced participants' preference for novel stimuli. For instance, participants in one study liked a Chinese ideograph more if it was immediately preceded by a suboptimal smiling face than if it was preceded by a suboptimal geometric figure (an affectively neutral stimulus). Likewise, participants liked an ideograph less if it was preceded by a suboptimal frowning face than if it was preceded by a suboptimal geometric figure. Murphy and Zajonc concluded that affect elicited outside of conscious awareness is diffuse, and its source is unknown; thus, people may attribute their feeling to the unrelated stimuli of which they are consciously aware. In this way, affect can "spill over." Indeed, Murphy and Zajonc did not find the same effects at optimal exposures; thus, when participants were aware of the source of their feelings, unrelated stimuli were not affected.

Similarly, Fiske and Pavelchak (1986) proposed a model addressing the role of affect in person perception and social categorization. According to their model, the affect associated with any particular social category is "tagged" to the label for that category. This affective tag could have been created from an initial weighted average of the positive

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[4]Critics of the theory have argued that some form of preconscious cognition is still necessary for the experience of affect (Lazarus, 1982; Epstein, 1983; see Leventhal, 1984, for a discussion of this debate).

and negative attributes associated with the category. Alternatively, it could have come from a conditioned response to the category label or been socially learned (e.g., someone stating that he or she hates Xs) prior to any knowledge about the category's qualities. Regardless of how the affective tag is created, once it is established, it becomes independent of the content of the category. As such, the category label enables an immediate and rapid affective response to an instance of the category, a response that does not rely on an attribute-by-attribute evaluation of the instance. In other words, as long as a stimulus can be categorized, the stimulus will elicit an affective evaluation that does not depend on any knowledge of the stimulus, besides the defining features used to categorize it.

While Fiske and Pavelchak's theory differs from Zajonc's in that the former stresses prior cognitive mediation in the form of categorization, whereas the latter does not, their basic similarity is the assertion that affect can be evoked prior to our consideration of the stimulus's attributes. Although these theories came decades after Allport (1954/1979) proposed the justification hypothesis, they lend both theoretical and empirical support to the assumption that prejudice toward the outgroup can precede the stereotype one forms of the outgroup.

The second assumption of the justification hypothesis is that we are motivated to maintain consistency between our feelings and beliefs about a stimulus. In other words, if we like or dislike something, our beliefs form or change in order to be consistent with our preference. This second assumption is crucial to the justification hypothesis because it implies that, if feelings toward the outgroup do precede knowledge of the outgroup, then

the impression formed of the outgroup will be biased in order to maintain consistency with those feelings. The justification hypothesis further adds that this motive to maintain consistency is caused by the desire to provide a reasonable rationale for one's feelings. However, if people did not attempt to maintain consistency between their feelings and beliefs, the justification hypothesis would have little theoretical ground on which to stand.

This notion that people are motivated to maintain consistency between their feelings and beliefs dates back to Rosenberg's (1956, 1960) affective-cognitive consistency theory. According to Rosenberg, people's "attitudinal affect" (i.e., degree of liking or disliking for an attitude object) is accompanied by a consonant "cognitive structure" (i.e., beliefs) regarding the attitude object's potential to facilitate or inhibit the realization of certain values. More simply, the more we like something, the more we believe it aids our attainment of a number of important values. For example, if I like spinach, I probably believe it tastes good (i.e., pleasure value), is good for me (i.e., health value), and makes an attractive side dish (i.e., aesthetic value). Thus, Rosenberg proposed that these affective and cognitive components of an attitude[5] tend toward consistency. However, when inconsistency is encountered, people may either place the inconsistency "beyond the range of active awareness," or reconcile the inconsistency by changing one of

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[5]The term, attitude, has been sometimes used in the classic as well as contemporary literature to mean an overall positive or negative evaluation (e.g., Fazio, Sanbonmatsu, Powell, & Kardes, 1986; Thurstone, 1928; Zanna & Rempel, 1988). Rosenberg (1960) termed this affect. According to Rosenberg and Hovland (1960), an attitude is a predisposition to respond in a particular manner toward a particular object or class of objects. Thus, affect and attitude were not synonymous; rather, affect was one of three components of an attitude (the others being cognition and behavior).

the components. Considerable persuasion research has investigated how cognitive-based inconsistency changes one's affect toward the attitude object (e.g., effective counterarguments; see Eagly & Chaiken, 1993, for a concise review). In contrast, Rosenberg was interested in how affect-based inconsistency changes one's beliefs about the attitude object.

Examining the influence of affect on beliefs presents a special problem. How does the researcher manipulate affect toward an attitude object directly without first affecting the perceiver's beliefs? Rosenberg (cited in Rosenberg, 1960) developed a unique solution. He first assessed participants' favorability (i.e., affect) toward several controversial proposals of the day (e.g., labor's right to strike, the U.S. being more conciliatory toward the Soviet Union, and "Negroes" moving into White neighborhoods) as well as participants' beliefs regarding the extent to which each proposal facilitated or inhibited several important values. After this initial assessment of affect and beliefs, he hypnotized half of the participants and changed their initial affect toward a proposal through the use of posthypnotic suggestion. For instance, one participant was told:

> When you awake you will be very much in favor of Negroes moving into white neighborhoods. The mere idea of Negroes moving into white neighborhoods will give you a happy, exhilarated feeling. Only when the signal to remember [this suggestion] is given will you remember... and only then will your feelings revert to normal. (pp. 26-27)

When participants' affect and beliefs were again assessed immediately after hypnosis (as well as two and four days later), not only did the hypnotized participants' feelings toward the proposals change, but their beliefs also shifted to remain consistent with the feelings. That is, participants who did not favor "Negroes moving into white

neighborhoods" before the hypnosis tended to express beliefs that the proposal inhibited their values (e.g., "They would lower property values"). However, the same participants who, after hypnosis, favored the proposal, tended to express beliefs that the proposal facilitated their values (e.g., "This is America so they have the same right to live in this neighborhood as we do").

A more recent study by Niedenthal and Cantor (1986) used perhaps a less exotic but equally clever method of directly evoking an affective response toward a stimulus. They based this method on the consistent finding that people like photographs of faces with dilated pupils more than faces with constricted pupils. Even more important, people appear consciously unaware that pupil dilation influences their affective reactions to others. Niedenthal and Cantor took advantage of this method of automatically evoking feelings toward a stimulus by presenting participants photographs of faces that varied in degree of pupil dilation. After each photograph, participants were presented either a positive or a negative description of the person pictured and were asked to rate the likelihood that the description was true. In line with Rosenberg's affective-cognitive consistency theory, participants felt that positive descriptions were more likely to be true of people with dilated pupils, and that negative descriptions were more likely to be true of people with constricted pupils.

Rosenberg's theory was one among a number of consistency theories proposed during the 1950s and early 1960s: for example, Heider's (1958) balance theory, Newcomb's (1953) strain-toward-symmetry theory, Osgood and Tannenbaum's (1955) congruity theory, and without a doubt the most influential of all consistency theories,

Festinger's (1957) theory of cognitive dissonance (for a review see Eagly & Chaiken, 1993). However, unlike these other consistency theories, Rosenberg's theory was specific to the affective-cognitive relationship. That is, Rosenberg only proposed that we are motivated to eliminate inconsistency between feelings and beliefs, whereas other consistency theories, particularly the theory of cognitive dissonance, argued that we are motivated to eliminate all inconsistencies. The key difference is that theories such as cognitive dissonance predict that we would be motivated to make consonant two inconsistent beliefs, while the affective-cognitive consistency theory, and more specifically the justification hypothesis, make no such claim. In other words, the present perspective does not presume that the content of one's stereotype about an outgroup is internally consistent, only that the content is consistent with one's overall feeling toward the outgroup.

Some early evidence of this comes from research conducted by Adorno, Frenkel-Brunswik, Levinson, and Sanford (1950) on the authoritarian personality. They constructed a scale to measure prejudice towards Jews and included items that reflected negative beliefs about Jews that were essentially contradictory. For example, several items assessed the belief that Jews were seclusive:

> Much resentment against Jews stems from their tending to keep apart and to exclude gentiles from Jewish social life.

and

> Jews tend to remain a foreign element in American society, to preserve their old social standards and to resist the American way of life.

On the other hand, several items assessed the belief that Jews were intrusive:

> The Jews should not pry so much into Christian activities and organizations, nor seek so much recognition and prestige from Christians.

and

> Jews go too far in hiding their Jewishness, especially such extremes as changing their names, straightening noses, and imitating Christian manners and customs.

That a group could be simultaneously too seclusive and too intrusive seems unlikely. However, Adorno et al. found that items measuring seclusiveness correlated .74 with items measuring inclusiveness. According to Allport (1954/1979), this finding was clear evidence that dislike for a group requires justification, and that any justification would do. He may have overstated the case based on the evidence; however, the fact that respondents endorsed contradictory statements about Jews seems to suggest that their beliefs were doing more than just simplifying their cognitive processes. Indeed, assimilating two incompatible traits such as seclusive and intrusive into the same stereotype would seem to require more cognitive effort rather than less. According to the justification hypothesis, however, people who dislike Jews might opportunistically seize whatever beliefs serve to rationalize their prejudice, regardless of the consistency among those beliefs.

Despite the compelling nature of the justification hypothesis, no research has directly tested it. However, several recent studies have provided some evidence consistent with this hypothesis. For instance, in a study by Stephan and Stephan (1993), students assessed the degree to which 20 different traits were descriptive of people from ten different countries as a measure of "pure" stereotyping. In addition, the students

evaluated how positive or negative each trait was and how positive or negative their feelings were toward people from each country. Stephan and Stephan found few significant correlations of students feelings toward the various countries with the pure measure of stereotyping. However, they did find that, in all cases, students' feelings significantly correlated with a combined measure of the degree to which people from a particular country were perceived as possessing each trait and students' evaluation of each trait. In other words, if a participant rated most Russians as proud, this rating had little to do with that participant's feelings toward Russians. However, if that same participant thought pride was a positive trait, he or she liked Russians more than if he or she thought pride was a negative trait.

Similar results were reported by Esses and Zanna (as cited in Esses et al, 1993). In their research, they asked Canadians to list as many characteristics as necessary to convey their impression of six different ethnic groups. Additionally, participants rated the valence (i.e., how positive or negative on a 5-point scale) of each characteristic as well as the proportion of the group to which each characteristic applied. Esses and Zanna found that participants' feelings toward each ethnic group correlated with the average valence of the characteristics listed by participants, but did not correlate with participants' proportion estimates. That is, one's feelings toward an ethnic group was more related to the valence of the stereotype rather than the perceived applicability of the stereotype to the group. For example, if a participant described Jews as shrewd, it was how negative (or positive) shrewd was as a characteristic that predicted that participant's feelings toward Jews, not the proportion of Jews believed to be shrewd.

Although correlational, these studies are consistent with Allport's justification hypothesis. According to the hypothesis, if stereotypes form in order to justify one's feelings toward the outgroup, the valence of the resulting stereotype should be the same as the valence of one's feelings. Of course, one would expect the same consistency in valence if stereotypes caused one's feelings.[6] However, the latter explanation does not account for the consistent finding that feelings toward the outgroup are unrelated to the degree to which the stereotype is believed to characterize the outgroup (also see Brigham, 1971; Stephan & Stephan, 1985, 1989). If stereotypes cause feelings toward the outgroup, then the more characteristic a stereotype is perceived to be, the more it should influence feelings toward that outgroup. In other words, the more Xs I believe to be dishonest, the more I should dislike Xs as a group. But, this pattern has not been found. On the other hand, the finding that feelings toward the outgroup are unrelated to the proportion of outgroup members the stereotype is believed to characterize is not inconsistent with the justification hypothesis. Indeed, the prejudiced individual may selectively encode, interpret, or recall certain characteristics of the outgroup that provide a sufficient rationale for that individual's dislike of the group, without attention to the perceived prevalence of that characteristic within the group.

This issue brings me to an important point. That is, the justification hypothesis fits under a more general theoretical rubric outside of the stereotyping literature: Namely,

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[6]In fact, Esses, Haddock, and Zanna (1993) and Stephan and Stephan (1993) interpreted their results using the stereotype-causes-prejudice explanation, rather than suggesting the reverse possibility.

theories concerning people's biased reasoning and hypothesis-testing strategies for reaching desired conclusions (e.g., Kruglanski, 1980; Kunda, 1990; Pyszczynski & Greenberg, 1987). According to Kunda's (1990) theory of motivated reasoning, people may attempt to reach certain desired conclusions by engaging in a number of cognitive strategies. However, Kunda points out that people are not able to conclude whatever they want simply because they want to do so. Rather, people want to maintain an "illusion of objectivity" and therefore draw the desired conclusion only if they can construct a rational justification that might seemingly persuade a real or imagined objective observer.

One method of accomplishing a desired conclusion is through a biased search of memory. For example, if I do not like Xs, I might selectively recall instances that would confirm my feelings--an X lied to me once--and justify my dislike by claiming Xs are dishonest. This process does not require that the perceiver also estimate the degree to which the justification is accurate. That is, once evidence is mustered that confirms the desired conclusion, the perceiver stops processing and does not search for disconfirming instances. However, if I were asked to estimate the proportion of Xs that were dishonest, this judgment would require me to recall both instances in which Xs had been honest and dishonest, thereby initiating a more unbiased memory search. Again, the process of selective recall may explain why researchers have found that feelings toward the outgroup are correlated with the valence of the stereotype, but not with the perceived proportion of the outgroup to which the stereotype applies.

A more provocative method for reaching a desired conclusion can occur through the biased, on-line interpretation of information. For instance, in a study by Klein and

Kunda (1992), all participants expected to play a history trivia game in which the target of an upcoming evaluative task was either their partner or their opponent. The researchers reasoned that participants would want to perceive their partner as good at history and their opponent as bad at history. Participants then received a sample of the target's performance on a number of history questions. In all cases, the target received a perfect score. Participants were then asked to judge the degree to which the target's performance was based on luck and ability. Although the target was always perceived as having better-than-average ability, participants believed that the target's performance was due more to ability when the target was their partner than when the target was their opponent. Likewise, participants believed that the target's performance was more due to luck when the target was their opponent than when the target was their partner. Thus, given the same information, participants constructed an impression of the target in order to maintain the belief that they would win the game.

The motivated construction of beliefs has important implications for stereotype formation. That is, prior to any experience or knowledge of an outgroup's attributes, a person may interpret information regarding the outgroup in a way that justifies the person's feelings toward the outgroup. For example, if Xs like to skydive, and I do not like Xs, I might interpret their behavior as reckless and foolhardy. However, if I like Xs, I might see their skydiving as adventurous and brave. Thus, the same behavior that is seen as despicable if committed by a disliked group may be seen as endearing if committed by a favored group. Indeed, this bias is apparent in the set of reciprocal stereotypes that typically develops between two groups (D. T. Campbell, 1967). That is, the mere

perception of an ingroup/outgroup boundary sets in motion behaviors committed by each group that are intended to favor the ingroup (see Brewer, 1979). However, Donald Campbell (1967) noted that this ingroup bias is typically perceived by the ingroup as group loyalty and pride, whereas the same behavior committed by the outgroup is described as clannish and egotistical. This reciprocal contrast between groups was also noted by Bronfenbrenner (1961) in his portrayal of the mirror-image perceptions held by the United States and the Soviet Union. For instance, he noted that both Soviet and U. S. governments saw the other as militarily aggressive, but interpreted their own actions as protecting national interests.

The justification hypothesis, in its broadest form, states that one's feelings toward the outgroup will be followed by an impression of the outgroup's attributes that serve to justifying those feelings. This assertion rests on the assumptions that affect toward the outgroup can precede knowledge of the outgroup's attributes, and that people are motivated to maintain consistency between their feelings toward the outgroup and the impression they form of the outgroup. These assumptions were shown to have a basis in the literature. Furthermore, I expect that the processes by which impressions of the outgroup are formed conform to the more general strategies of motivated reasoning (Kunda, 1990). That is, one's feelings toward the outgroup serve as a directional goal in the impression formation process. The use of such strategies as selective recall and biased interpretation aid the perceiver in meeting their desired beliefs.

Past research has shown that feelings toward other ethnic groups and beliefs about those groups are related, and that the nature of this relationship appears consistent with

the justification hypothesis. Recently several contemporary theorists have reiterated the justification hypothesis. Dijker (1989) and Vanman and Miller (1993) suggested that certain stereotypes may reflect rationalizations of specific emotions experienced around the outgroup. For example, if White Americans experience fear or anxiety in the presence of African Americans, they may assume African Americans are hostile as a means of justifying their feelings. Still, no empirical research has directly examined the idea that negative stereotypes form in order to justify one's prejudice toward the outgroup. In the next section, I present an overview of the present research designed to test the hypothesis that negative feelings toward the outgroup cause the biased formation of a negative stereotype about the outgroup.

OVERVIEW

Methodology and Design

Establishing the causal relationship between prejudice and stereotyping requires that the people being tested have no prior experience or knowledge of the group in question. This requirement is a difficult, if not impossible task if preexisting groups are examined. Therefore, I designed an experiment to test whether prejudice causes negative stereotypes by creating artificial groups within the laboratory. This operationalization was accomplished by informing participants that psychologists have identified two new personality types (Type C and Type D personalities) and that earlier in the semester they had taken a test in class to determine which type they were. Participants were randomly assigned a personality type and then separated into two groups according to this artificial difference.

However, the more daunting task was establishing prejudice between the two artificial groups. There are several theories that propose different necessary and sufficient conditions for prejudice towards the outgroup to occur. One is mere categorization. Considerable research suggests that the mere perception of an intergroup boundary automatically engenders favoritism for the ingroup relative to the outgroup (for reviews see Brewer, 1979; Messick & Mackie, 1989). For instance, Dovidio, Tobriner, Rioux, and Gaertner (cited in Dovidio & Gaertner, 1993) found that participants evaluated two

target individuals more positively if they were referred to using ingroup pronouns (i.e., we, us, and ours) than if they were referred to using outgroup pronouns (i.e., they, them, and theirs). Thus, Type Cs should automatically like other Type Cs more than Type Ds as soon as they are classified as such.

But, is ingroup favoritism the same as prejudice? Most studies indicate that mere categorization does not depreciate one's view of the outgroup (i.e., outgroup derogation) so much as it enhances one's view of the ingroup (Brewer, 1979, Dovidio & Gaertner, 1993). Thus, based on past research, Type Cs should not necessarily dislike Type Ds; they should just like Type Cs more. However, prior research has almost invariably used a minimal groups paradigm in studying the effects of mere categorization. In a minimal groups paradigm, participants are randomly assigned to one of two groups based supposedly on the outcome of an irrelevant or even arbitrary task (e.g., being told you are a dot-overestimator or a dot-underestimator after guessing the number of dots in a picture). Furthermore, participants do not interact with other participants from the ingroup or from the outgroup. Thus, the resulting "group" has little, if any social meaning for the participant in a minimal groups study. In contrast to the minimal groups paradigm, the study proposed here attempts to simulate a real social category that has psychological significance for the participants. As such, participants in the proposed research should feel more ingroup identification than in a minimal groups study. Research by Blanz, Mummendey, and Otten (1995) suggests that the likelihood of outgroup derogation increases with higher levels of ingroup identification. Therefore, if participants identify with their group enough, they may feel prejudice toward the outgroup.

While it is unclear whether mere categorization alone can create intergroup prejudice, prior research has established that the presence of competition between two groups is a sufficient condition for prejudice to arise (Rabbie, Benoist, Osterbaan, & Visser, 1974; Sherif, Harvey, White, Hood, & Sherif, 1961; Worchel, Andeoli, & Folger, 1977). This idea is consistent with the theory of realistic group conflict (Sherif et al., 1961; also see Bobo, 1983), which states that actual competition for scarce resources must exist to produce prejudice. To examine this possibility, I manipulated the degree of competition between the two groups by having them take part in a trivia game. Each group took turns answering questions of varying difficulty. In one condition, the participants were told that they were competing for experimental credit in their general psychology class: The group that answered the most questions correctly would get two points of credit, while the losing group would get one (and in order to receive their second credit they would have to return to the laboratory a week later). In another condition, the groups were not told that they were competing for credit, but rather that all participants would receive two credits. In fact, all participants received two credits for participating, regardless of the outcome of the trivia game.

Most theorists agree that competition is sufficient to produce prejudice, however, they disagree over whether it is necessary. Some have argued that symbolic rather than realistic conflict can promote prejudice between groups (McConahay, 1982, 1986; McConahay & Hugh, 1976). That is, prejudice may arise, not so much out of actual competition for resources, but out of the perception that the outgroup is receiving undeserved advantages. Thus, even in the absence of competition, resentment toward the

outgroup might form from the perception that the ingroup is being treated unfairly relative

to the outgroup. To examine this, I manipulated the perception of advantage to the

outgroup by rigging the trivia game. Half the participants perceived that the other group

was randomly receiving easier questions than their group was receiving. The other half

perceived no advantage to the other group--the difficulty of the questions appeared

equally distributed.

Any one or all of these three factors--mere categorization, competition, and

perceived advantage to the outgroup--should be sufficient to promote prejudice between

the two groups. The question was whether that would bias the impression the ingroup

formed of the outgroup when finally provided information about the outgroup. In other

words, would participants' prejudice cause them to form a negative stereotype of the

outgroup? To answer this, participants were asked after the trivia game to rate their

feelings toward either Type C or Type D personalities as a group. After rating their

feelings toward the group, participants read a description of the typical behaviors observed

by a personality psychologist when studying that group, and then were asked to

characterize each of the behaviors with a single trait. Each behavior in the paragraph was

carefully constructed to be ambiguous. In other words, each behavior could be

characterized with a negative or a positive trait. For example, "They are well aware of

their ability to do many things well," can be interpreted as self-confidence or conceit.

This procedure of attributing traits to ambiguous behaviors was used by Higgins,

Rholes, and Jones (1977). However, unlike Higgins, et al.'s research in which

participants' responses were later coded as positive or negative only by independent

raters, I adapted a method used by Esses, Haddock, and Zanna (1993, which was in turn adapted from Karlins, Coffman, & Walters, 1969) in which participants also rated the valence of their own responses. I did this because I was also interested in participants' "subjective" evaluation of each trait. For example, while most people may consider self-confidence out of context to be a positive trait, the participant that listed it may intend it to mean something negative, such as overconfidence.

Next, using the same procedure participants rated their feelings, read a paragraph, and gave their impression of the other personality. Thus, all participants evaluated both the ingroup and outgroup. However, participants' evaluations of each target group was counterbalanced such that half the participants evaluated the ingroup first, while the other half evaluated the outgroup first. Finally, participants completed several ancillary measures including a measure of ingroup identification. The resulting design was a 2 (advantage: no advantage or advantage) x 2 (competition: no competition or competition) x 2 (target: ingroup or outgroup) factorial. In addition, an offset control condition was included in the design. Participants in the control condition completed the same procedure as participants in the no-advantage/no-competition condition, except they were not informed of their personality type. Thus, control participants did not have a salient ingroup with which they could identify.

<div align="center">Hypotheses</div>

The following are the primary hypotheses tested by this study and my predictions.

Hypothesis 1a: People feel more favorable toward the ingroup than toward the outgroup.

Hypothesis 1b: The more the intergroup context threatens the identity of the ingroup, the more the ingroup will dislike the outgroup.

Overall, I expected that the well-documented ingroup bias effect would be apparent in participants' feelings toward the two personalities. However, consistent with past research (see Brewer, 1979; Messick & Mackie, 1989), I expected that mere categorization alone would be insufficient to create negative feelings toward the outgroup. That is, relative to the control condition, I predicted that the ingroup would be evaluated more positively, but the outgroup would not be evaluated more negatively. However, I expected that perceived advantage to the outgroup and competition would have the additive effect of increasing threat to participants' social identity associated with their personality group. As a result, I predicted that these intergroup variables would cause participants' feelings toward the outgroup to decrease, with feelings toward the outgroup being the most negative when participants perceived both advantage to the outgroup and competition between the groups.

Hypothesis 2a: People form a more favorable stereotype of the ingroup than of the outgroup.

Hypothesis 2b: The more the intergroup context threatens the identity of the ingroup, the more likely the ingroup will form a negative stereotype of the outgroup.

If participants' feelings toward the target group influenced the stereotype formed of the target group, then the same pattern of effects predicted for participants' feelings (Hypothesis 1a and Hypothesis 1b) was also predicted for participants' subjective trait ratings as well as the independent raters' objective ratings of those traits. In other words, I expected that, overall, participants would form a more positive stereotype of the ingroup

than of the outgroup, and that the more the outgroup was disliked because of the

perception of outgroup advantage and competition, the more negative the stereotype of

the outgroup would become. Furthermore, it was under these conditions of advantage

and/or competition that I expected participants' stereotypes about the outgroup to be

more negative than those of control participants. Thus, a test of Hypothesis 2b was a test

of the causal relationship predicted by the justification hypothesis--that negative feelings

toward the outgroup cause the formation of a negative stereotype about the outgroup.

> Hypothesis 3: Feelings toward the outgroup predict the stereotype formed of the
> outgroup such that one's feelings and the traits ascribed to the outgroup are similar
> in valence.

I expected that participants' feelings toward the outgroup personality would

predict the overall valence of the traits assigned to the outgroup. That is, participants'

trait ratings of the outgroup would be positively related to their feelings toward the

outgroup. Given that participants rate their feelings toward the outgroup before reading

the paragraph about the outgroup, this relationship would provide further support for the

justification hypothesis. Although not relevant to any specific hypothesis tested by this

study, I also expected that participants' feelings toward the ingroup would be positively

related to the stereotype formed of the ingroup. That is, according to Rosenberg's (1960)

affective-cognitive consistency theory, the more participants like their ingroup, the more

they should be motivated to form a positive impression of their group. Furthermore,

based on a direct interpretation of the justification hypothesis, I did not expect

participants' feelings toward one target group (e.g., the ingroup) to correlate with

participants' stereotype of the other target group (e.g., the outgroup).

Hypothesis 4a: Ingroup identification is positively related to the stereotype formed of the ingroup such that the more one identifies with the ingroup relative to the outgroup, the more favorable one's impression of the ingroup.

Hypothesis 4b: Ingroup identification is negatively related to the stereotype formed of the outgroup such that the more one identifies with the ingroup relative to the outgroup, the less favorable one's impression of the outgroup.

Hinkle and Brown (1990) report that ingroup bias is positively related to ingroup identification, and Blanz et al. (1995) have found that ingroup identification is positively related to the likelihood of outgroup derogation. Thus, I expected that, after reading each description of the ingroup and outgroup, the degree to which participants believed they belonged to the ingroup rather than the outgroup (i.e., ingroup identification) would be related to the impressions they formed of the ingroup and outgroup. In other words, the more participants identified with the ingroup, the more favorable their impressions would be of the ingroup, and the less favorable their impressions would be of the outgroup. This prediction is consistent with a social identity explanation of stereotype formation. That is, the more a person identifies with the ingroup, the more likely it is that he or she will strive to maintain a positive social identity by emphasizing the ingroup's positive qualities and the outgroup's negative qualities. Of particular interest, however, is whether ingroup identification mediates the relationship between feelings and the stereotype, or whether ingroup identification and feelings are independently related to the stereotype.[1]

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[1]Another possibility is that feelings toward the group may mediate the influence of ingroup identification on the formation of a stereotype of the group. One might expect this possibility if participants rated their feelings for the group after reading the paragraph about the group. However, because participants rate their feelings before the paragraph, it seems highly unlikely that the degree to which one identifies with the paragraph's description would be mediated by one's feelings toward the group.

METHOD

Pilot Studies

Two pilot studies were required to develop and pretest materials before the experiment. The first study was conducted to generate easy and difficult questions for the trivia game. An initial pool of 60 difficult questions was selected from the board game Trivial Pursuit (Horn Abbot Ltd., 1981). In addition, an equal number of easy questions were selected from the fourth- and fifth-grade versions of Brain Quest (Workman publishing Co., 1994a, 1994b), a trivia game designed for children. The questions were administered to a sample of 35 undergraduate students at the University of Florida. Students were asked to answer each question as best as they could and then rate the difficulty of each question on a scale from 1 (very easy) to 6 (very difficult). Questions that were answered correctly by less than 16% of the students were designated as difficult. From this pool of difficult questions, 12 were selected that did not significantly differ in their mean difficulty ratings (range from 4.8 to 5.3, $\underline{M} = 5.1$). Likewise, questions that were answered correctly by at least 84% of the students were designated as easy, and from these, 9 were selected that did not significantly differ in their mean difficulty ratings (range from 1.8 to 2.3, $\underline{M} = 2.0$). This final sample of 21 questions was used for the trivia game (see Appendix A).

The second study was conducted to develop the ambiguous behaviors typical of the outgroup and ingroup. An initial pool of 40 ambiguous behaviors was generated by selecting behaviors used in previous research (e.g., Higgins, Rholes, & Jones, 1977; Srull & Wyer, 1979), as well as creating new behaviors previously untested. Each behavior was a single sentence describing a group of people referred to only as "they." A sample of 30 undergraduate students at the University of Florida was asked to read each sentence and then write down a single word that best characterized the people described in each. Immediately after writing down each word, participants rated how positive or negative the word was on a scale from -3 (very negative) to +3 (very positive) with 0 labeled neutral.

A behavior was determined to be ambiguous if it met two criteria. First, the proportion of students characterizing the behavior with a positive word could not significantly differ from the proportion of students characterizing the behavior with a negative word. Second, the average rating of the valance of each word used to describe the behavior could not significantly differ from zero. Twelve behaviors that met these two criteria were selected as ambiguous. These 12 behaviors were then used to construct two paragraphs consisting of six behaviors each. Care was taken to group behaviors together that did not conceptually contradict each other. For example, behaviors implying modesty or a lack of confidence were not grouped with behaviors implying pride or conceit. The final paragraphs used in the experiment are presented in Appendix B and C.

The Experiment

Participants

One-hundred-sixteen University of Florida students (62 women and 54 men) were recruited by phone to participate in exchange for credit in their general psychology or cognitive psychology class.

Procedure

Experimental conditions. Four or six participants of the same gender were scheduled to arrive for each session of the experiment. After they arrived, participants were greeted and then randomly split into two equal groups. Each group was then randomly assigned and escorted to one of two rooms. Each room contained a table around which participants sat facing each other. The table in one room was labeled C, while the table in the other room was labeled D.

Participants in each room listened to a tape recording that presented the following cover for the experiment:

> The purpose of this study is to examine how people of similar personalities work together in groups. As you know, there are many different types of personalities. For instance, you may have read about Type A and Type B personalities in your General Psychology class. Recently, personality psychologists have identified two new personality types. They are called Type C and Type D personalities. This experiment is particularly interested in studying these two new personality types. Earlier this semester, you all completed a long questionnaire in your general psychology class. Some of the items on this questionnaire were designed to test whether you are a Type C personality or a Type D personality. Your scores revealed that everyone at this table is a Type C (D) personality. The group of participants in the other room are all Type D (C) personalities.

In actuality, there is no such thing as a Type C or a Type D personality and no questions were included on the in-class questionnaire in conjunction with this experiment.

Nonetheless, because participants most likely had learned of Type A and Type B

personalities in their general psychology class, I assumed that participants would find the

existence of Type C and Type D personalities believable. Throughout the rest of this

dissertation, I will use ingroup to refer to all people that the participants believe share their

personality, and outgroup to refer to all people that the participants believe are of the

other (Type C or Type D) personality.

Next, each group of participants heard the following instructions from the tape

recording:

> In order to examine how you work as a group, we are going to have you work
> together to answer a series of trivia questions. Each question will be from one of
> five categories: general knowledge, science and nature, history and geography,
> sports and leisure, or arts and literature. You will be given approximately one
> minute to read each question, discuss it, and record your answer on the answer
> sheet in front of you. The correct answer for each question will be revealed at the
> end of the study. Each question will be selected from a single box of 100
> questions. However, for reasons important to the study of group interactions, you
> cannot select your own questions. Furthermore, because it would be unscientific
> and potentially biased, the experimenter cannot select for you. Therefore, the
> group of Type Cs (Ds) in the other room will randomly draw each question for
> you, and likewise you will randomly draw each question for them.

In the competition condition, each group then heard the following:

> At the end of this session, the experimenter will grade each group's answer sheet
> and compare the scores. The group that gets the most trivia questions correct will
> be finished with the study and each member will receive two credits for
> participating. The losing group, however, will receive one credit today and be
> asked to return in a week for further testing. These tests will only take about 10
> minutes. We realize that this may be a hassle for many of you, but it is extremely
> important for the purposes of this study that we retest the members of the losing
> group, else we would have to discard their data altogether. As incentive to return,
> members of the losing group will receive their second credit when they return to
> complete the study.

I assumed that participants would much rather receive two credits toward their general psychology research requirement at the end of the session than receive only one credit at the end and have to return again to receive the second. Thus, I hoped this information would be sufficient to initiate competitive interdependence between the two groups. In the no competition condition, participants were not given any such competitive incentive and all participants were informed at the beginning of the session that they would receive two credits for participating that day.[1]

After the tape recording finished, the experimenter then presented nine rounds of trivia questions to each group. A single round consisted of the following. First, a member of one group selected a question for the other group from a box and then read the question to their own group before handing the question to the experimenter. Then, the experimenter, while in transit between rooms, discarded the question drawn by the first group and selected a new question from another box. This box contained the nine actual questions presented to each group. Three of the nine questions were easy (e.g., "What liquid is used in a thermometer?"). The other six were difficult (e.g., "What is the capital of Norway?") (see Pilot Studies). Next, the experimenter presented the new question to the other group, waited a minute for them to write their answer, and then had them select

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[1]By no competition, I mean that no explicit competitive incentive was made present in this condition. That is, both groups were informed that they would receive the same outcome at the end of the experiment. I do not mean that there was a lack of any competition between the two groups. Indeed, the mere perception of a group boundary may be sufficient to elicit a low level of competition. Nonetheless, the degree of competition between the two groups should be higher in the competition condition than in the no competition condition.

a question for the first group, read it aloud, and hand it to the experimenter. Lastly, the experimenter again discarded the question drawn by the second group and then presented the same question answered by the second group to the first group. Thus, although each group perceived that it was randomly drawing each question for the outgroup, in actuality, the experimenter selected a new question from another box and presented it to both groups during each round. In this way, each group unknowingly answered the same exact questions in the same order.

Additionally, during the course of the nine rounds, the experimenter manipulated the advantage to the outgroup. This was accomplished through the use of a series of trick boxes containing either easy questions or difficult questions. Participants were lead to believe that they were all selecting questions from one box. In actuality, they were selecting questions from nine separate boxes, one for each round. The experimenter simply exchanged boxes while in transit between rooms at the end of each round. Furthermore, although participants believed they were randomly selecting questions, the cards in each box contained the same question.

In the <u>advantage</u> condition, six of the nine boxes contained an easy question while three of the nine contained a difficult question. Thus, from the perspective of each group, the outgroup received six easy questions and three difficult questions while the ingroup received three easy questions and six difficult questions. Conversely, in the <u>no advantage</u> condition, three of the nine boxes contained an easy question while six of the nine contained a difficult question. Since this is the same ratio of easy to difficult questions as contained in the actual question box, both groups received the same number of easy and difficult questions.

After completing the nine rounds of trivia questions, each participant was handed two separate questionnaires, one after the other. The first asked each participant to evaluate and form an impression of either the ingroup or the outgroup personality, whereas the second asked participants to do the same except for the other personality (see Dependent Measures). The order in which participants evaluated and formed an impression of the ingroup and the outgroup was counterbalanced so that half of the participants evaluated the ingroup first and the other half evaluated the outgroup first. In addition, the order in which participants evaluated Type C and a Type D personalities was counterbalanced such that half of the participants believed they were evaluating Type Cs first and the other half believed they were evaluating Type Ds first. Next, participants were given a series of ancillary measures and manipulation checks to complete, after which they were probed for suspicion and then fully debriefed.

Control condition. The procedure for the control condition was the same as the procedure for the no competition, no outgroup advantage, experimental condition. The only difference was that the cover for the experiment was changed to say the following (changes are underscored):

> The purpose of this study is to examine how people of different personalities work together in groups. As you know, there are many different types of personalities. For instance, you may have read about Type A and Type B personalities in your General Psychology class. Recently, personality psychologists have identified two new personality types. They are called Type C and Type D personalities. This experiment is particularly interested in studying these two new personality types. At this time, we do not know what personality type you are. Members of your group may be Type C personalities, Type D personalities, or neither. Later in the term we will assess your individual personalities in class by having you complete a short questionnaire.

Thus, participants in the control condition evaluated and formed an impression of both Type C and Type D personalities without knowing their own personality type. Although control participants did not know their personality type, each participant was randomly assigned to be either a Type C or a Type D and were separated into equal groups according to this designation. Thus, all control participants evaluated an "ingroup" and an "outgroup" even though they were not aware that they had been assigned to either group. Furthermore, participants did not complete any questionnaire later that term associated with this experiment.

Dependent Measures

The first page of each questionnaire presented an 11-point Feeling Thermometer scale (A. Campbell, 1971) with the instruction for participants to rate their overall feeling for the group in question (Type C or Type D personalities). The scale ranged from 0 (very unfavorable) to 100 (very favorable) with 50 labeled as neutral.

The second page of each questionnaire explained that personality psychologists have been able to identify Type C and Type D personalities using a variety of projective measurement tools; however, it is yet unknown whether nonpsychologists are able to identify those traits and characteristics that distinguish Type Cs and Type Ds. Participants were then instructed to read a paragraph describing the personality in question (either Type C or Type D) supposedly taken from an article by Dr. A. Holland in The Journal of Personality (see Appendix B and C). The paragraph for each questionnaire consisted of six behaviors that were constructed and empirically established to be ambiguous (i.e., each behavior could be attributed to either a negative or a positive trait) (see Pilot Studies).

After reading the paragraph, participants read each behavior again and then characterized each behavior with a single word. Immediately after writing down a word, participants then rated the desirability of the word on a scale from -3 (very undesirable) to +3 (very desirable) with 0 labeled neutral.

Ancillary Measures

After completing the dependent measures, participants responded to the following three questions using 5-point Likert-type scales: (a) "How similar are you to Dr. Holland's description of Type Cs?" (1 = not at all similar, 5 = very similar); (b) "How similar are you to Dr. Holland's description of Type Ds?" (1 = not at all similar, 5 = very similar); (c) "If you had a choice, how much would you prefer to be the other personality?" (1 = not at all, 5 = very much).[2] These three questions assessed the degree to which participants identified with their ingroup over the outgroup. The latter two questions were reversed scored and all three were averaged for a mean ingroup identification score ($\alpha = .81$).

Next, participants responded to the following five questions using 5-point Likert-type scales: (a) "Are the members of your group well-matched in terms of personality?" (1 = not at all, 5 = very much); (b) "How similar are you to the other members of your group?" (1 = not at all similar, 5 = very similar); (c) "Was it pleasant for you to belong to your group?" (1 = not at all, 5 = very much); (d) "If given the opportunity, how much would you like to continue working with your group?" (1 = not at all, 5 = very much); (e) "If given the opportunity, how much would you like to work with another group?" (1 =

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[2]Participants in the control condition did not complete this question.

not at all, 5 = very much). These questions were designed to assess participants' feelings of group cohesion. The fifth question (e) was reverse scored and all five questions were then averaged for a mean group cohesion score (α = .72).

Manipulation Checks

Participants' perception that the outgroup was receiving an unfair advantage was assessed by having them respond to the following three questions using a 5-point Likert-type scale: (a) "To what extent do you feel that the trivia game was fair?" (1 = not at all fair, 5 = very fair); (b) "In general, how difficult do you feel the trivia questions were for your group?" (1 = not at all difficult, 5 = very difficult); (c) "In general, how difficult do you feel the trivia questions were for the other group?" (1 = not at all difficult, 5 = very difficult). The third question (c) was subtracted from the second question (b) as a composite measure of perceived advantage ranging from -4 to +4. Higher positive scores indicate a greater advantage to the outgroup, whereas lower negative scores indicate a greater advantage to the ingroup. A score of zero indicates no perceived advantage.

The degree of perceived competition between the two groups was assessed by having participants respond to the following two questions using 5-point Likert-type scales: (a) "How important was it for your group to answer more trivia questions than the other group?" (1 = not at all important, 5 = very important); (b) "How much competition do you feel existed between the two groups?" (1 = none, 5 = a lot). Responses to these two questions were averaged for a mean competition score (α = .72).

RESULTS

All participants interacted in groups of two or three, and although participants were specifically instructed not to discuss their responses with the other members of their group, it is still possible that participants within groups influenced each other. In order to control for this potential interdependence in the data, participants' responses within a single group were averaged to create a mean group response to each dependent measure. Thus, the unit of analysis for all statistical analyses was the mean response for each group rather than the individual response of each participant. One of these groups was excluded from all statistical analyses because a member of that group discovered that the trivia game was rigged before completing the dependent measures. Two additional groups were excluded from all statistical analyses because members of those groups did not complete one or both of the questionnaires. Thus, statistical analyses were performed on the data from the remaining 54 groups (44 experimental groups and 10 control groups). Table 1 presents the number of experimental groups by advantage and competition.

<u>Manipulation Checks</u>

I conducted a 2 (advantage) x 2 (competition) between-subjects analysis of variance (ANOVA) of the perceived fairness of the trivia game.[1] This analysis revealed

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[1]All analyses of the manipulation checks excluded participants from the control condition.

Table 1

Number of Groups by Advantage and Competition

	No Competition	Competition
No Advantage	6	16
Advantage	14	8

only a significant advantage main effect, F (1, 40) = 5.89, p = .02. That is, participants in the outgroup advantage condition rated the trivia game as less fair (M = 2.34) than participants in the no advantage condition (M = 3.07). Likewise, I conducted a 2 (advantage) x 2 (competition) ANOVA of participants' perceived advantage scores. Again, this analysis revealed only a significant advantage main effect, F (1, 40) = 4.80, p = .034, indicating that participants in the outgroup advantage condition did perceive the outgroup as having more of an advantage (M = 1.84) than did participants in the no advantage condition (M = 1.12). However, participants' perceived advantage scores in the no advantage condition were significantly greater than zero, t (21) = 5.04, p < .0001. Thus, participants in the no advantage condition still perceived that the outgroup was receiving easier questions.

In addition, I conducted a 2 (advantage) x 2 (competition) ANOVA of participants' competition scores. This analysis revealed only a significant competition main effect, F (1, 40) = 4.26, p = .046. That is, participants in the competition condition perceived more between-group competition (M = 3.61) than participants in the no competition condition (M = 3.04). However, even participants in the no competition condition perceived a significant level of competition between the two groups. That is, even in the absence of any explicit outcome dependency between the two groups, participants' competition scores were significantly greater than 1.00 (the lowest possible score), t (21) = 11.16, p < .0001. Thus, although the manipulations appeared to successfully facilitate the perception of outgroup advantage and competition, participants

still perceived the presence of outgroup advantage and competition on the basis of mere categorization alone.

<center>Primary Analyses</center>

Before conducting analyses to test my primary hypotheses, I needed to determine whether to treat the target group (ingroup or outgroup) as a within-subjects factor or a between-subjects factor. Due to the counterbalancing, either method was possible, but treating the target group as a within-subjects factor was preferred because of the added power to statistical analyses. Therefore, I treated the target group as a within-subjects factor on all analyses.[2] Unless otherwise noted, all analyses that follow exclude the control participants.

<u>Feeling Thermometer Ratings</u>

Each participant's Feeling Thermometer ratings of both the ingroup and the outgroup were submitted to a 2 (advantage) x 2 (competition) x 2 (target) mixed-model ANOVA with target as the within-subject factor in order to test the following hypotheses.

> <u>Hypothesis 1a</u>: People feel more favorable toward the ingroup than toward the outgroup.

> <u>Hypothesis 1b</u>: The more the intergroup context threatens the identity of the ingroup, the more the ingroup will dislike the outgroup.

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[2]Nonetheless, I conducted analyses of participants' impressions of the first personality description treating the target group as a between-subjects factor. The pattern of effects paralleled those found when the target group was treated as a within-subjects factor. Therefore, I do not report them here.

As expected, the ANOVA revealed a significant main effect for target, F (1, 40) = 34.19, p < .0001. That is, participants felt more favorable toward the ingroup personality (M = 75.68) than toward the outgroup personality (M = 58.75). Thus, Hypothesis 1a was supported. In fact, as can be seen in Table 2, simple effects tests revealed that the ingroup was liked more than the outgroup across all four experimental conditions (all ps < .006, except in the advantage/competition condition, p = .094). However, no other main effects of interactions were significant (all ps > .20). Furthermore, despite the apparent success of the manipulations, participants' feelings toward the ingroup or outgroup did not significantly change because of participants' perception of advantage or competition (all ps > .17). Thus, Hypothesis 1b was not supported.

I also conducted planned contrasts of control participants' mean Feeling Thermometer rating to those of experimental participants (see Table 2). These revealed that, regardless of experimental condition, experimental participants rated the ingroup more favorably than control participants rated the "ingroup" (all ps < .008). However, experimental participants' feelings toward the outgroup did not differ, in any condition, from control participants' feelings toward the "outgroup" (all ps > .22). Also, as expected, control participants' feelings toward the "ingroup" did not differ from control participants' feelings toward the "outgroup" (p = .69).

<u>Subjective Trait Ratings</u>

To examine the stereotype participants formed of the target group after reading each paragraph, a composite measure was created by averaging each participant's subjective ratings of the six traits they listed as characteristic of the target group. Thus,

Table 2

Mean Feeling Thermometer Ratings of the Ingroup and Outgroup
by Condition

Condition	Ingroup	Outgroup
Control	52.00b	54.00b
No Advantage		
No Competition	83.33a	62.50b
Competition	75.31a	55.31b
Advantage		
No Competition	74.29a	58.93b
Competition	73.13a*	62.50ab*

Note. Means can range from 0 to 100 with higher ratings
indicating more positive feelings toward the target group.
Except for the contrasts with the control group, all contrasts
are orthogonal. Means not sharing a subscript significantly differ
$p < .008$. Means sharing an asterisk (*) marginally differ,
$p = .094$.

each participant's mean trait rating represented their average evaluation of the valence of these traits. However, because the valence of each trait was rated on a scale from -3 to +3, this measure may mask the number of positive and negative traits listed by participants. For example, based on the mean trait rating, one trait rated a -3 would be the same as three traits rated -1. Therefore, although mean trait ratings were one way of examining participants' stereotype of the target group, I also calculated the frequency of positive and negative traits listed for each target group based on participants' subjective trait ratings.

ANOVAs. Each participants' mean trait ratings of both the ingroup and the outgroup was submitted to a 2 (advantage) x 2 (competition) x 2 (target) mixed-model ANOVA with target as the within-subjects factor in order to test the following hypotheses.

Hypothesis 2a: People form a more favorable stereotype of the ingroup than of the outgroup.

Hypothesis 2b: The more the intergroup context threatens the identity of the ingroup, the more likely the ingroup will form a negative stereotype of the outgroup.

As expected, the ANOVA revealed a significant main effect for target, $F (1, 40) = 5.32$, $p = .026$, indicating that participants' stereotype of the ingroup was more positive ($M = 0.42$) than participants' stereotype of the outgroup ($M = 0.14$). Thus, Hypothesis 2a was supported. However, this effect was qualified by a marginally significant Advantage x Competition x Target interaction, $F (1, 40) = 3.73$, $p = .061$.

Table 3 presents mean trait ratings of the ingroup and outgroup by levels of advantage and competition. As expected, participants' stereotype of the ingroup was significantly more positive than participants' stereotype of the outgroup when there was no perceived advantage and no perceived competition between the groups, $F (1, 40) = 6.53$, $p = .015$. However, inconsistent with Hypothesis 2b, this difference was not found in the other three conditions ($ps > .34$). Rather than magnifying the ingroup bias found in the no-advantage/no-competition condition, perceived advantage and/or competition appeared to inhibit this effect. Thus, ingroup bias was isolated to mere categorization.

Also of interest was the direction of this effect--in other words, whether participants' overall impressions of the ingroup and outgroup were more biased in favor of the ingroup or more biased against the outgroup. Planned contrasts revealed that participants' mean trait ratings of the ingroup in the no-advantage/no-competition condition was significantly greater than zero, $F (1, 40) = 8.48$, $p = .006$, and significantly more positive than control participants' mean trait ratings of the "ingroup," $F (1, 49) = 5.58$, $p = .022$. However, although participants' views of the outgroup in the no-advantage/no-competition condition was, on average, negative, they were not significantly less than zero, $F (1, 40) = 0.79$, $p = .38$, nor were they significantly less than control participants' mean trait ratings of the "outgroup," $F (1, 49) = 1.20$, $p = .28$. Therefore, participants' overall impressions appeared to favor the ingroup rather than disfavor the outgroup.

I also submitted the frequency of positive and negative traits listed by participants to a 2 (advantage) x 2 (competition) x 2 (target) x 2 (traits: positive or negative) mixed-

Table 3

Mean Trait Ratings of the Ingroup and Outgroup by Condition

Condition	Ingroup	Outgroup
Control	-0.01b	0.14b
No Advantage		
No Competition	0.86a	-0.29b
Competition	0.46ab	0.30b
Advantage		
No Competition	0.16ab	0.18b
Competition	0.46ab	0.08b

Note. Means can range from -3 to +3 with higher ratings indicating a more positive overall impression of the target group. Except for the contrasts with the control group, all contrasts are orthogonal. Means not sharing a subscript significantly differ $p < .03$.

model ANOVA with traits and target as within-subjects factors.[3] This analysis revealed a significant main effect for traits, $F_{(1, 40)} = 8.40$, $p = .006$, indicating that participants tended to list more positive traits ($M = 2.81$) than negative traits ($M = 1.92$). However, this main effect was qualified by a significant Target x Traits interaction, $F_{(1, 40)} = 7.01$, $p = .012$. Simple effects tests show that participants listed more positive traits for the ingroup ($M = 3.09$) than for the outgroup ($M = 2.52$), $F_{(1, 40)} = 5.67$, $p < .03$, and tended to list more negative traits for the outgroup ($M = 2.13$) than for the ingroup ($M = 1.70$), $F_{(1, 40)} = 3.37$, $p < .08$. Again, this interaction supported Hypothesis 2a. Furthermore, this two-way interaction was qualified by a marginally significant Advantage x Competition x Target x Traits interaction, $F_{(1, 40)} = 3.14$, $p = .084$.

To interpret this four-way interaction, I conducted a 2 (target) x 2 (traits) within-subjects ANOVA for each level of the between-subjects design.[4] The only significant Target x Traits interaction was found in the no-advantage/no-competition condition, $F_{(1, 40)} = 6.58$, $p = .014$. As can be seen in Table 4, participants in this condition assigned more positive traits to the ingroup than to the outgroup, $F_{(1, 40)} = 6.58$, $p = .014$, and more negative traits to the outgroup than to the ingroup, $F_{(1, 40)} = 6.58$, $p = .014$. However, as found with participants' mean trait ratings, this effect was not significant in

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[3]Although qualitative data is typically analyzed using a chi-square test or a log-linear model, F tests obtained from an ANOVA give accurate results, unless the total sample size is very small ($df < 20$) (see Rosenthal & Rosnow, 1991).

[4]However, all F tests were computed using the pooled error variance from the Advantage x Competition x Traits x Target ANOVA.

Table 4

Mean Frequency of Positive and Negative Traits Ascribed to the Ingroup and Outgroup by Condition

Condition	Positive Traits		Negative Traits	
	Ingroup	Outgroup	Ingroup	Outgroup
Control	2.50ab	2.80ab	2.55ab	2.45bc
No Advantage				
No Competition	3.58a	1.92b	1.34c	3.00b
Competition	3.38a	2.87ab	1.38c	1.75c
Advantage				
No Competition	2.54ab	2.39ab	2.18ac	2.07bc
Competition	3.12a	2.50ab	1.75bc	2.37bc

Note. Except for the contrasts with the control group, all contrasts are orthogonal. Means not sharing a subscript significantly differ $p < .04$.

the other three conditions (all $ps > .27$).[5] Again, inconsistent with Hypothesis 2b, the ingroup bias effect was only apparent when there was no perceived outgroup advantage and no competition.

In order to assess the direction of the ingroup bias, I again conducted planned contrasts of the mean frequencies from the no-advantage/no-competition condition to those from the control condition. Participants in the no-advantage/no-competition condition described the ingroup with significantly fewer negative traits than control participants, $F (1, 49) = 4.71$, $p = .035$ (see Table 4). However, the other three planned contrasts were not significant (all $ps > .12$). Therefore, the ingroup bias appeared primarily a result of participants perceiving their own group less negatively.

Using both methods of assessing participants' impression of the target group, ingroup bias was only observed when there was no perceived outgroup advantage and no competition. This is somewhat puzzling given that participants liked the ingroup more than the outgroup regardless of perceived advantage or competition. If participants' feelings toward the outgroup are responsible for participants' impressions of the outgroup, why was the bias not present in participants' impressions when they perceived the outgroup to have an advantage or when there was competition between the two groups?

One possibility is that participants distanced their identity from the ingroup under these threatening conditions in order to avoid the potential negative social identity of being

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[5]However, a main effect for traits was found in the no-advantage/competition condition, $F (1, 40) = 13.40$, $p = .0007$, indicating that more positive traits were listed ($M = 3.13$) than negative traits ($M = 1.57$).

associated with a losing group. To test this possibility, I conducted a 2 (advantage) x 2 (competition) between-subjects ANOVA of participants' ingroup identification scores. This analysis revealed a significant main effect for competition, F (1, 40) = 6.16, p = .017. That is, participants in the no competition condition identified more with the ingroup (M = 3.48) than participants in the competition condition (M = 3.09). The main effect for advantage was marginally significant, F (1, 40) = 3.61, p = .065, indicating that participants in the no advantage condition identified more with the ingroup (M = 3.36) than participants in the advantage condition (M = 3.17). These main effects were also qualified by a marginally significant Advantage x Competition interaction, F (1, 40) = 3.38, p = .073. As can be seen in Table 5, participants in the no-advantage/no-competition condition identified significantly more with their ingroup than participants in any other condition (all ps < .02).[6] In other words, rather than creating hostility toward the outgroup, perceived advantage and competition caused participants to disassociate themselves from the ingroup, in a sense making the ingroup less of an ingroup. This disassociation may have eliminated the expected ingroup bias in the advantage and/or competition conditions.

Correlational analyses. I wanted to examine the relationship between participants' feelings toward the target group and their mean trait ratings of that group. Interestingly,

[6]I also conducted a complex contrast simultaneously comparing participants' ingroup identifications scores in the no-advantage/no-competition condition to their scores in the other three conditions. This was significant, F (1, 40) = 9.37, p = .004, indicating that participants identified the most with their ingroup when their was no perceived advantage to the outgroup and no competition between groups.

Table 5

Mean Ingroup Identification Scores by Perceived
Advantage and Competition

	No Competition	Competition
No Advantage	4.06a	3.10b
Advantage	3.23b	3.08b

Note. Means can range from 1 to 5 with higher scores
indicating greater ingroup identification. Means not
sharing a subscript significantly differ, $p < .02$.

participants' Feeling Thermometer ratings of the ingroup and the outgroup were positively correlated ($r = .44$, $p = .003$). Thus, the more participants liked the ingroup the more they liked the outgroup as well. Therefore, multiple regressions were conducted to assess the unique contribution of participants' ingroup and outgroup feelings toward participants' mean trait ratings of the ingroup and outgroup. Specifically, these multiple regressions were conducted in order to test the following hypothesis.

> Hypothesis 3: Feelings toward the outgroup predict the stereotype formed of the outgroup such that one's feelings and the traits ascribed to the outgroup are similar in valence.

Table 6 presents partial correlations resulting from these regressions. As expected, participants' feelings toward the ingroup did not significantly predict participants' mean trait ratings of the outgroup, and participants' feelings toward the outgroup did not significantly predict participants' mean trait ratings of the ingroup. Surprisingly, however, participants' feelings toward the ingroup did not significantly predict participants' mean trait ratings of the ingroup.[7] More importantly, though, participants' feelings toward the outgroup, while controlling for ingroup feelings, significantly predicted participants' mean trait ratings of the outgroup.[8] That is, consistent with Hypothesis 3, participants' feelings

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[7]The zero-order correlations of participants' feelings toward the ingroup with participants' mean trait ratings of the ingroup and outgroup, and the zero-order correlation of participants' feelings toward the outgroup with participants' mean trait ratings of the ingroup were also nonsignificant (all $ps > .29$).

[8]The zero-order correlation of participants' feelings toward the outgroup with participants' mean subjective trait ratings of the outgroup was also significant ($r = .36$, $p = .017$).

Table 6

Partial Correlations of Participants' Feeling Thermometer
Ratings with Participants' Mean Trait Ratings by Target Group

	Trait Ratings	
Feelings	Ingroup	Outgroup
Ingroup	.20	-.02
Outgroup	-.12	.33*

Note. Partial correlations with feelings toward the ingroup
control for feelings toward the outgroup and partial correlations
with feelings toward the outgroup control for feelings toward
the ingroup.

*p < .03.

toward the outgroup were related to participants' mean trait ratings of the outgroup.

Thus, Hypothesis 3 was supported--the less the outgroup was liked, the less positive

participants evaluated the traits they assigned to the outgroup. In order to observe this

relationship visually, I plotted the regression line of participants' feelings toward the

outgroup with their mean trait ratings of the outgroup, controlling for participants'

feelings toward the other ingroup (see Figure 1). As can be seen in Figure 1, when

participants' feelings toward the outgroup were negative (i.e., less than 50), their trait

ratings tended to be negative (i.e., less than 0), but when their feelings toward the

outgroup were positive, their trait ratings tended to be positive.

     As I noted, examining participants' mean trait ratings, though informative, masks

the relative frequency of positive and negative traits used to describe the target group.

Therefore, I also wanted to investigate whether participants' feelings toward the target

group predicted the number of positive and negative traits listed. To do so, I computed

partial correlations of participants' feelings toward the target group, controlling for the

other target group, with the frequency of positive and negative traits used to characterize

the target group. As can be seen in Table 7, participants' feelings toward the outgroup,

while controlling for ingroup feelings, significantly predicted the frequency of negative

traits, but not the frequency of positive traits used to characterize the outgroup. In other

words, the more negative participants felt toward the outgroup, the more negative traits

they used to describe the outgroup; however, participants' feelings toward the outgroup

were unrelated to the number of positive traits they generated. Again, participants'

feelings toward the ingroup did not affect participants' stereotype of the outgroup or the
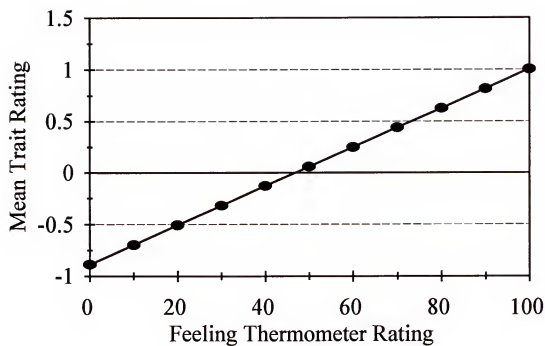
Figure 1. Regression line plotting participants' Feeling Thermometer ratings of the outgroup with participants' mean trait ratings while controlling for participants' Feeling Thermometer ratings of the ingroup.

Table 7

Partial Correlations of Participants' Feeling Thermometer Ratings with the Frequency of
Positive and Negative Traits by Target Group

Feelings	Positive Traits		Negative Traits	
	Ingroup	Outgroup	Ingroup	Outgroup
Ingroup	.18	-.10	-.14	.10
Outgroup	-.24	.19	.09	-.39*

Note. Partial correlations are in parentheses. Partial correlations with feelings toward the
ingroup control for feelings toward the outgroup and partial correlations with feelings
toward the outgroup control for feelings toward the ingroup.

*$p < .02$.

ingroup, nor did participants' feelings toward the outgroup affect participants' stereotype of the ingroup (all $ps > .20$).

I also expected that ingroup identification would be related to participants' impressions of the target group. Thus, I computed zero-order correlations of participants' ingroup identification scores with participants' mean trait ratings and the frequency of positive and negative traits by target group in order to test the following hypotheses.

Hypothesis 4a: Ingroup identification is positively related to the stereotype formed of the ingroup such that the more one identifies with the ingroup relative to the outgroup, the more favorable one's impression of the ingroup.

Hypothesis 4b: Ingroup identification is negatively related to the stereotype formed of the outgroup such that the more one identifies with the ingroup relative to the outgroup, the less favorable one's impression of the outgroup.

Table 8 presents these correlations. Consistent with Hypothesis 4b, ingroup identification significantly predicted participants' mean trait ratings of the outgroup as well as the frequency of positive and negative traits used to describe the outgroup. In other words, the more participants identified with their group, the more negative and less positive their stereotype was of the outgroup. Consistent with Hypothesis 4a, participants' ingroup identification scores also significantly predicted participants' mean trait ratings of the ingroup as well as the number of negative traits assigned to the ingroup. However, ingroup identification did not significantly correlate with the frequency of positive traits assigned to the ingroup. Thus, the more participants identified with the ingroup, the less negative, but not necessarily the more positive, were their impressions of the ingroup.

Given that ingroup identification also predicts participants' stereotype of the outgroup, it may mediate the observed relationship between feelings toward the outgroup

Table 8

Correlations of Participants' Ingroup Identification Scores
with Participants' Impressions of the Target Group

Impressions of the Target Group	Ingroup Identification
Outgroup	
Mean trait ratings	-.54**
Frequency of positive traits	-.50**
Frequency of negative traits	.42*
Ingroup	
Mean trait ratings	.37*
Frequency of positive traits	.19
Frequency of negative traits	-.34*

*p < .04, **p < .001.

and the stereotype of the outgroup. If so, then participants' ingroup identification scores and their feelings toward the outgroup should be correlated. However, they were not ($r = -.17$, $p = .28$), and neither were participants' ingroup identification scores and their feelings toward the ingroup ($r = .05$, $p = .77$). Thus, ingroup identification and feelings toward the outgroup appear to be independently related to participants' impressions of the outgroup.[9]

Although no specific predictions or hypotheses were made concerning group cohesion, I explored whether this ancillary measure was related to participants' feelings and impressions about the target groups. A marginally significant correlation was found with participants' feelings toward the ingroup ($r = .26$, $p = .085$). That is, the more participants perceived their group in the experiment to be cohesive, the more they tended to like their personality group as a whole. However, group cohesion was unrelated to participants' feelings toward the outgroup and their impressions of either the ingroup or outgroup personality.[10]

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[9]Just to make sure, I computed partial correlations of participants' feelings toward the outgroup with the stereotype measures of the outgroup, controlling for ingroup identification. The magnitude of these partial correlations showed little change from the magnitude of the partial correlations controlling for feelings toward the ingroup in Tables 1 and 2 ($.01 \leq$ change in $r \leq .04$). I also computed partial correlations of ingroup identification with the stereotype measures of the outgroup, controlling for participants' feelings toward the outgroup. The magnitude of these partial correlations showed little change from the magnitude of the zero-order correlations in Table 3 ($.01 \leq$ change in $r \leq .03$).

[10]No other effects were observed in relation to group cohesion, therefore I do not discuss this variable further.

Objective Trait Ratings

One problem with any analysis of participants' subjective trait ratings is that any observed effects may be due to variance in the types of traits listed by participants (e.g., the ingroup is self-confident but the outgroup is conceited) or simply to variance in participants' evaluation of those traits (e.g., self-confident is positive when applied to the ingroup but negative when applied to the outgroup). Therefore, I also wanted to examine the objective (i.e., consensual) valence of each stereotype. That is, I wanted to know whether participants were actually using different traits to describe the ingroup and outgroup that an objective observer would perceive as varying in valence. To assess the objective valence of participants' stereotypes, three independent raters evaluated the valence of each of the 366 different traits listed by participants (including those traits listed by control participants). Raters used the same scale that participants used during the experiment, -3 (<u>very undesirable</u>) to +3 (<u>very desirable</u>) with 0 labeled <u>neutral</u>. Each trait was presented in alphabetical order and raters were kept blind to the source of the traits. That is, raters were not informed of the experimental procedure and did not read the personality descriptions to which the traits applied. Interrater reliability was adequate (α = .77); therefore, an objective rating was computed for each trait by averaging each raters' evaluation of the trait. Finally, a composite measure of the objective valence of each participants' stereotype of the target group was computed by averaging the objective ratings of the six traits each participant listed as characteristic of the target group. Thus, each mean objective rating represented the objective raters' average evaluation of the valence of each stereotype. Again, because both the objective valence of each trait was

rated on a scale from -3 to +3, this measure may mask the number of positive and negative traits listed by participants. Therefore, as I did with participants' subjective trait ratings, I also calculated the frequency of objectively positive and objectively negative traits listed for each target group based on the raters' objective evaluations.

To assess the similarity between participants' subjective ratings and rater's objective ratings of the stereotypes assigned to the ingroup and outgroup, I computed zero-order correlations between each subjective and objective measure of stereotype content. Table 9 presents those correlations, all of which were significant and moderate to large in size.[11] Thus, the subjective and objective measures of participants' stereotype of the ingroup and outgroup were highly related.

However, I was primarily interested in determining whether the effects observed analyzing participants' subjective evaluations of the ingroup and outgroup stereotypes differed from those effects observed analyzing raters' objective evaluations of those same stereotypes. If they did not differ, then one can assume that participants' subjective trait ratings were also due to the types of traits they wrote, rather than just their evaluations of those traits. Therefore, to test whether the effects reported for participants' subjective trait ratings differed from those based on raters' objective trait ratings, I compared the results of the analyses I conducted on participants' subjective stereotype measures (i.e., mean trait ratings, frequency of positive traits, and frequency of negative traits) to the

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[11] According to Rosenthal and Rosnow (1991), correlations between .30 and .50 are moderate in size and correlations greater than .50 are large.

Table 9

Correlations of the Subjective Stereotype Measures with the Objective
Stereotype Measures by Target Group

Dependent Measure	Ingroup	Outgroup
Mean trait ratings	.60***	.68***
Frequency of positive traits	.57***	.49**
Frequency of negative traits	.42*	.73***

*p = .005, **p = .0008, ***p < .0001

results of the same analyses for the objective stereotype measures (i.e., mean objective

ratings, frequency of objectively positive traits, and the frequency of objectively negative

traits). Specifically, I compared ANOVA results by repeating each ANOVA and including

rater (subjective or objective) as a within-subjects factor. Likewise, I computed zero-

order and partial correlations of feelings toward the target group and of ingroup

identification with the objective stereotype measures and statistically compared these

correlations to those correlations with the subjective stereotype measures reported above.

Across all of these comparisons, not a single main effect, interaction, zero-order

correlation, or partial correlation was found to significantly differ between the subjective

and objective measures of stereotype content (all $ps > .20$).

DISCUSSION

The Causal Relationship Between Intergroup Feelings and Stereotypes

The results of this dissertation replicated previous research on the ingroup bias. In support of Hypothesis 1a and Hypothesis 2a, participants in the present study on average felt more favorable toward the ingroup than toward the outgroup[1] and formed a more positive stereotype of the ingroup than of the outgroup. Similarly, considerable research has found that people like the ingroup more than the outgroup and they expect the ingroup to possess more positive traits than the outgroup (e.g., Dovidio & Gaertner, 1993; see Brewer, 1979; Messick & Mackie, 1989; for reviews).

However, the primary goal of this dissertation was not to replicate the ingroup bias effect but to investigate the causal relationship between feelings toward the outgroup and the stereotype formed of the outgroup. Specifically, the study presented here was designed to illustrate that feelings toward the outgroup can influence the stereotype

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[1] One interesting finding that deserves mentioning was that feelings toward the ingroup were positively related to feelings toward the outgroup. A number of explanations exist for this finding. One possibility is that this relationship may simply reflect individual differences in people's general favorability toward other people. Another possibility is that feelings toward the ingroup and feelings toward the outgroup reciprocally influenced each other as an artifact of the experimental procedure. That is, since each target was rated one after the other, participants' evaluation of the first target may have influenced participants' evaluation of the second target. Regardless, the reported effects of feelings on stereotype formation controlled for this relationship.

formed about the outgroup, rather than the reverse assumption that stereotypes influence feelings. Indeed, I found that participants' feelings toward the outgroup were positively related to participants' subsequent stereotype of the outgroup. That is, the less the outgroup was liked, the less favorable was participants' overall description of the outgroup. Because participants rated their feelings toward the outgroup prior to learning anything about their attributes, the notion that stereotypes cause one's feelings toward the outgroup does not account for this relationship.

However, this observed relationship between feelings and the stereotype is consistent with the justification hypothesis. That is, participants' may have interpreted the behaviors of the outgroup in such a way that justified their feelings toward that group. The explanation is further supported by the regression line plotted in Figure 1. That is, the regression showed that those participants who felt negatively toward the outgroup (i.e., prejudice) tended to form an overall negative stereotype of the outgroup, not just a less positive stereotype. In other words, participants who did not like the outgroup seemed motivated to maintain an impression of the outgroup that was consistent with their prejudice.

Of course, this result is correlational, and therefore an alternative explanation exists. Although the stereotype-causes-prejudice explanation can be ruled out, it is possible that participants' feelings and stereotypes were not at all causally related, but rather the result of a third variable that was not measured. Some effort was made to measure potential third variables inherent in the present intergroup context such as ingroup identification and group cohesion. Results showed that group cohesion was

unrelated to either feelings toward the outgroup or the stereotype of the outgroup. Although ingroup identification was related to participants' impressions of the target group, it was not related to feelings toward the target group. Nonetheless, other third variables might have been present that separately affected participants' feelings and impressions concerning the target groups. For example, individual differences in universal orientation have been shown to affect people's evaluations and attributions of other group members (Phillips & Ziller, 1997). Universal orientation refers to people's tendency to perceive others as similar to the self. Thus, participants high in universal orientation may have perceived the outgroup as more similar to the self than did participants low in universal orientation, and as a result liked the outgroup more and perceived the outgroup to have fewer negative qualities. Other individual differences have also been shown to influence intergroup perceptions, such as self-esteem (Seta & Seta, 1992) and the need for cognitive closure (Webster, Kruglanski, & Pattison, 1997).

To eliminate this third variable explanation and establish that negative feelings toward the outgroup cause the formation of a negative stereotype, it was necessary to experimentally manipulate participants' hostility toward the outgroup. Thus, a secondary goal of this dissertation was to determine what conditions were sufficient to produce that hostility. The fact that participants did not, on average, dislike the outgroup or form an overly negative impression of the outgroup on the basis of mere categorization was expected. As noted, there is a general consensus among researchers that mere categorization does not result in prejudice against the outgroup, but rather it results in ingroup favoritism--a bias toward the ingroup. Nonetheless, I had hoped that categorizing

participants into psychologically meaningful, though artificial, groups would engender a sufficient degree of ingroup identification that might create negative feelings toward the outgroup. However, although participants did appear to identify with the ingroup under conditions of mere categorization (i.e, the no-advantage/no-competition condition), ingroup identification was unrelated to feelings toward the outgroup.

If not mere categorization, I expected that the perception of an advantage to the outgroup would be sufficient to promote hostility toward the outgroup. This presumption was based on several recent theories of symbolic racism proposing that Whites' prejudice towards African Americans stems from the perception that African Americans are violating cherished values and norms of fair conduct (I. Katz, Wackenhut, & Hass, 1986; Kinder & Sears, 1981; McConahay, 1986). Thus, more generally, the perception that the outgroup is receiving an undeserved advantage was expected to violate participants' values of fairness, and therefore elicit negative feelings toward the outgroup. The perception of outgroup advantage was carefully manipulated through the use of a rigged trivia game. Indeed, participants in the advantage condition did believe that the other group was receiving easier questions and that the game was less fair than participants in the no advantage condition. Thus, the perception of outgroup advantage was successfully manipulated. Nonetheless, this manipulation did not affect participants' feelings toward the outgroup.

Furthermore, I fully expected that competition between the two groups would facilitate hostility toward the outgroup. Past research has shown that competition is a sufficient condition for intergroup prejudice to develop (Rabbie, Benoist, Osterman, &

Visser, 1974; Sherif, Harvey, White, Hood, & Sherif, 1961; Worchel, Andeoli, & Folger, 1977). Thus, I informed participants in the competition condition that they would be competing for experimental credit. This information did affect feelings of competition. Participants in the competition condition perceived more competition between the two groups than participants in the no competition condition. Despite the apparent success of the manipulation, competition did not affect feelings toward the outgroup.

Why did the manipulation of advantage and competition fail to promote hostility toward the outgroup? One possibility is that, although the perception of advantage was significantly greater in the advantage than in the no advantage condition and the perception of competition was significantly greater in the competition conditions than in the no advantage and no competition conditions, these differences still may not have been large enough to elicit prejudice. Recall that participants in the no advantage condition still perceived a small advantage to the outgroup, and participants in the no competition condition perceived some competition between the two groups. Thus, the mere salience of ingroup and outgroup social categories appeared to elicit a minimal baseline perception of outgroup advantage and competition and, in effect, reduced the relative impact of the manipulations. Future manipulations of outgroup advantage and competition may have to be more extreme in order to create hostility toward the outgroup. For example, having the experimenter explicitly favor the outgroup by choosing easier questions for that group rather than having the ingroup randomly draw easy questions for the outgroup may intensify the sense that the outgroup is receiving an unfair advantage.

Even more frustrating than the failure to directly promote prejudice using competition and outgroup advantage was the finding that these factors appeared to inhibit the ingroup bias in participants' stereotypes of the ingroup and outgroup. That is, although an overall ingroup bias effect was found, contrasts showed that this bias was only significant under the condition of no competition and no outgroup advantage--i.e., mere categorization. A closer examination of the results revealed that this may have been due to the fact that participants identified less with the ingroup when they perceived an advantage to the outgroup and/or when they felt competition existed between the two groups. Previous research has also found that lower ingroup identification inhibits the ingroup bias effect (Hinkle & R. Brown, 1990). This is consistent with social identity theory. That is, the less one identifies with the ingroup, the less one would rely on the ingroup to promote a positive social identity.

Perceived outgroup advantage and competition can be considered threats to social identity, or what Blanz, Mummendey, and Otten (1995) call "aggravating variables" (p. 411). That is, outgroup advantage and competition both make salient the possibility that one's ingroup may not perform as well as the outgroup, thereby establishing a negative social identity by comparison. Although these manipulations were fully intended to threaten participants social identity, it was expected that doing so would promote a dislike for the source of the threat. Instead, participants chose to disassociate themselves from the ingroup, thereby protecting their social identity from the threat. In hindsight, this makes sense, and is also consistent with research showing that people attempt to associate themselves with successful others (i.e., bask in reflected glory), but try to disassociate

themselves from unsuccessful others (Finch & Cialdini, 1989). The challenge for future research is to structure the intergroup context in such a way that disassociating from the ingroup is not possible or is undesirable while still maintaining a threat to the participants' social identity.

Evidence of Ingroup Favoritism and Outgroup Derogation

Participants' mean trait ratings of the ingroup in the no-advantage/no-competition condition was more positive than control participants' mean trait ratings. However, control participants' mean trait ratings did not differ from experimental participants' mean trait ratings of the outgroup. Thus, the ingroup bias in experimental participants' views of the two groups appeared to favor the ingroup rather than disfavor the outgroup when contrasted against control participants' impressions of the two groups. This finding is fairly consistent with most research on the ingroup bias. That is, prior studies have typically found that, relative to an undifferentiated group of others, the ingroup is rated more positively, but the outgroup is not necessarily rated more negatively (for reviews see Brewer, 1979, and Messick & Mackie, 1989). The general conclusion, then, is that social categorization leads to ingroup favoritism rather than outgroup derogation.

Based on this conclusion and the justification hypothesis, one might assume that the ingroup bias in participants' stereotypes of the ingroup and outgroup were the result of the ingroup bias in participants feelings toward the ingroup and outgroup. However, this assumption must be tempered by the findings that the ingroup favoritism in participants' feelings did not cause the ingroup favoritism in participants' stereotype of the ingroup because feelings toward the ingroup was not significantly correlated with the

stereotype of the ingroup. Rather, participants' stereotype of the ingroup was more likely influenced by the degree of participants' ingroup identification.

Furthermore, although participants' feelings toward the outgroup did not differ between control and experimental groups, participants' feelings toward the outgroup significantly predicted participants' stereotype of the outgroup, and more specifically, the number of negative traits assigned to the outgroup. Thus, the more negative participants felt toward the outgroup, the more likely they were to derogate the outgroup. At first glance, this evidence of outgroup derogation may seem contradictory to the finding that, relative to the control group, participants' formed a more positive impression of the ingroup, but not necessarily a more negative impression of the outgroup (i.e., ingroup favoritism). However, the fact that these findings are from the same data indicates that they must be compatible.

One resolution comes from the existing ingroup bias literature. Brewer (1979) and, more recently, Gaertner Mann, Murrell, & Dovidio (1989; also see Dovidio & Gaertner, 1993) have proposed that, prior to a salient social categorization, people perceive the self as differentiated from others. In other words, the self is the solo ingroup member and everyone else is an outgroup member. As such, ingroup bias is apparent in people's tendency to perceive the self more positively than they perceive others (i.e., the self-serving bias, see Bradley, 1978; Greenwald, 1980; D. T. Miller & Ross, 1975; S. E. Taylor & Brown, 1988, for reviews of this vast literature). The purpose of the control condition in the present study was to simulate this baseline state of social perception. However, once a salient social category is introduced (e.g., personality differences), those

others sharing category membership with the self are perceptually "moved" closer to the self--in other words, former outgroup members become ingroup members. As a result, the new ingroup members are favored more than when they were outgroup members; however, one's feelings toward the remaining outgroup do not change.

This conceptualization of ingroup bias is consistent with the present results. Control participants' views of both groups were a mixture of positive and negative characteristics, but overall fairly neutral. Once one of these groups became the ingroup, participants then liked the group more and identified more with the group. As a result of the greater ingroup identification, participants perceived the group to have fewer negative qualities, thereby resulting in an overall positive impression. However, participants' feelings toward and impressions of the outgroup did not change. Therefore, since feelings toward the outgroup predicted experimental participants' impression of the outgroup, I speculate that this relationship also existed for control participants' feelings and subsequent impressions of the two groups. That is, as in the experimental conditions, participants in the control conditions may have justified their less favorable feelings for the two "outgroups" by assigning more negative traits to those groups. Unfortunately, the sample of control participants was too small to test this relationship. Thus, this possibility remains a question for future research.

A Model of Stereotype Formation

Figure 2 presents a causal model of stereotype formation that summarizes the primary results discussed above and provides a potential blueprint for future research. The model starts with the social categorization of an undifferentiated set of others into an
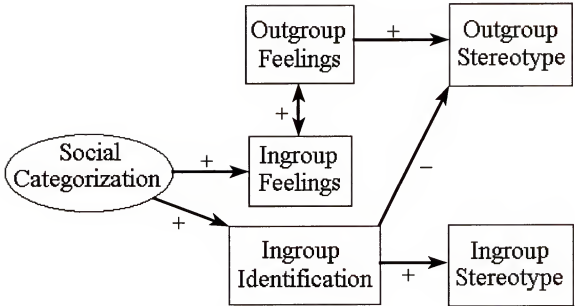
Figure 2. Proposed model of stereotype formation based on mere categorization. Positive relationships are denoted with a "+" sign and negative relationships with a "-" sign.

ingroup and outgroup. The basis of the categorization may be psychologically meaningful, as in this study's bogus feedback concerning personality types, or fairly irrelevant and unrelated to the intergroup judgment, as in the minimal groups paradigm developed by Tajfel (1970; Tajfel, Billig, Bundy, & Flament, 1971). Even the use of pronouns such as "we" and "them" have been shown to make social categorization salient (Dovidio & Gaertner, 1993).

Next, the mere categorization of people into an ingroup and outgroup promotes more positive feelings for the new ingroup members but does not change one's feelings for the remaining outgroup members. This is consistent with the present results as well as current theory on ingroup bias (Brewer, 1979; Dovidio & Gaertner, 1993; Gaertner et al., 1989). Furthermore, one's feelings toward the outgroup directly influence the stereotype formed of that group. That is, as the justification hypothesis predicts, people will attempt to rationalize their feelings toward the outgroup by forming a stereotype that is consistent with their feelings. However, because social categorization does not affect people's feelings toward the outgroup, this relationship between feelings toward the outgroup and the outgroup stereotype may be more generally stated. That is, people's impression of any group to which they do not belong, even in the absence of a salient ingroup, serves to justify their feelings towards that group. For instance, I may justify my dislike of a local country club of which I cannot afford membership by describing the members as elitist snobs. Although the mention of the country club makes this outgroup salient, it does not make any particular ingroup salient. Even upon joining a more affordable country club, my feelings and impression of the expensive country club will likely remain unchanged.

What affects people's feelings toward the outgroup is a question for future research. Prior research has shown that the inferior status and minority size of one's ingroup relative to the outgroup can act as aggravating variables, thereby increasing derogation of the outgroup (e.g., Blanz et al., 1995). I still expect that variables such as perceived advantage to the outgroup and competition, when properly manipulated, will also affect feelings toward the outgroup.

In contrast, feelings toward the ingroup do not influence the stereotype one forms of the ingroup. Although the justification hypothesis, in its pure form, only explains the relationship between outgroup feelings and the outgroup stereotype, one of the assumptions underlying the justification hypothesis is that people desire to maintain consistency between their affect for an object and their beliefs about that object (i.e., affective-cognitive consistency theory, Rosenberg, 1960). Thus, the fact that people do not feel a need to justify their feelings toward the ingroup introduces a caveat to this assumption. People's feelings toward their ingroup tend to be positive, one possible explanation is that positive feelings toward an object require less justification than negative feelings. According to Fiske (1980; Fiske & Taylor, 1991), negative social stimuli are, in general, more salient than positive social stimuli and therefore procure more attention. That is, people tend to perceive other individuals positively (Nilsson & Ekehammar, 1987; Sears, 1983) and expect only good from others and life in general (Parducci, 1968; S. E. Taylor & Brown, 1988). Thus, disliking others is relatively unusual and therefore likely to catch the perceiver's attention. As such, the perceiver may feel a need to justify the unexpected negative feeling, while positive feelings toward others may go largely unnoticed and demand little justification. This explanation is also supported by the finding

in the present study that participants' feelings toward the outgroup only predicted the number of negative traits assigned to the outgroup, not the number of positive traits. That is, the more the outgroup was disliked, the more the outgroup was described with negative traits. However, the more the outgroup was liked, the fewer negative traits, not the more positive traits, were used to describe the outgroup.

Simply focusing on the justification explanation of stereotype formation would lead one to believe, on the basis of this research, that a person's stereotypes of the ingroup and the outgroup are unrelated to social categorization. However, as can be seen in Figure 2, social categorization also promotes ingroup identification, which in turn affects the stereotype formed of both the ingroup and the outgroup. That is, the more one identifies with the ingroup rather than the outgroup, the more likely one is to form a positive stereotype of the ingroup and a negative stereotype of the outgroup. This effect follows directly from social identity theory (Tajfel, 1982; Tajfel & Turner, 1986). According to this theory, the more we identify with a particular group, the more we strive to maintain a positive social identity by comparing the positive qualities of the ingroup against the negative qualities of the outgroup. Returning to the country club example, once I join the less expensive country club, I may perceive my fellow country club members to be sociable and down-to-earth, but perceive members of the other country club as cold and aloof.

CONCLUSION

In hindsight, the idea that prejudice biases our beliefs about another group seems as intuitive as the converse idea that negative beliefs about a group prejudice us against that group. It seems obvious that if we dislike a person or group before knowing much about them, we will be biased in the impression we form of them. However, until now, this possibility has never been adequately researched, and many contemporary social psychologists continue to focus on the assumption that stereotypes are not the result of prejudice but rather the cause. In contrast, this dissertation shows that feelings toward the outgroup, created prior to any knowledge of the outgroup's attributes, predicts the stereotype formed about that outgroup. These results provide initial support for Allport's (1954/1979) justification hypothesis. That is, people will justify their negative feelings toward the outgroup by forming a more negative stereotype of that group. Furthermore, evidence was also found in support of the social identity explanation for stereotype formation. That is, people who identify with the ingroup tend to maximize the difference between the attributes of the ingroup and outgroup by forming a positive stereotype of the ingroup and a negative stereotype of the outgroup.

The present research demonstrated one method by which people may rationalize their negative feelings toward the outgroup--namely, the biased on-line interpretation of information. Based on Kunda's (1990) theory of motivated reasoning, another strategy

might be the biased recall of past information. In other words, people may selectively recall attributes they have learned about the outgroup in order to justify their dislike of the outgroup. One method of examining this strategy is to examine whether feelings toward the outgroup predict the formation of an illusory correlation between the outgroup and negative behaviors. That is, despite being presented an equal number of positive and negative statements about the ingroup and the outgroup, I expect that people who dislike the outgroup will later overestimate the number of negative behaviors committed by the outgroup as a means of justifying their negative feelings. Therefore, one goal for future research is to test this possibility and further explore the mechanisms by which people justify their prejudice.

Another compelling question for future research concerns the development of effective strategies for prejudice reduction. In other words, do we combat prejudice by eliminating stereotypes, or is that just fighting the symptom and not the disease? The present research suggests that, at least for some individuals, changing people's stereotypes will not change their feelings for other groups. Over forty years ago, Allport (1954/1979) voiced the same concern, stating that "while it does no harm (and may do some good) to combat them in schools and colleges, and to reduce them in mass media of communication, it must not be thought that this attack alone will eradicate the roots of prejudice" (p. 204).

This assertion is supported by recent research by Edwards (1990; Edwards & von Hippel, 1995) suggesting that cognitive forms of persuasion (i.e., changing beliefs about the attitude object) are ineffective methods for changing affect-based attitudes. In one

study, (Edwards, 1990, Experiment 1), she subliminally presented participants with affective stimuli (happy or angry faces) preceding supraliminal exposures to novel Chinese ideographs. Based on prior research (Kunst-Wilson & Zajonc, 1980), this procedure was assumed to affect participants' preferences for the ideographs without their conscious awareness of the affective primes. However, either immediately before or after this pairing of subliminal faces with the ideographs, Edwards also presented information to participants regarding the quality and aesthetic value of each ideograph. Thus, when this information preceded the affective stimuli, it had a greater influence on participants' preferences for the ideographs (i.e., cognition-based attitudes), but when this information followed the presentation of the ideograph, the affective stimuli had a greater influence (i.e., affect-based attitudes). After this attitude formation stage, Edwards attempted to change participants' attitudes either through affective means (i.e., subliminally presenting faces showing the opposite affect from before) or through cognitive means (i.e., presenting opposing information regarding the quality and aesthetic value of the ideographs). Although she found that cognition-based attitudes were equally susceptible to affect- and cognition-based methods of persuasion, affect-based attitudes were only changed by affect-based persuasion, not by cognition-based persuasion.

Similarly, attempting to change people's negative stereotypes and beliefs about other groups may fail to change people's prejudices (Dovidio & Gaertner, 1993). Evidence of this is apparent in White Americans' changing racial beliefs but continued prejudice toward African Americans. That is, societal pressures toward egalitarianism created in the wake of the Civil Rights movement of the 1960s changed White Americans'

old-fashioned beliefs regarding the inherent inferiority of African Americans and the separation of the races (A. Campbell, 1971; D. G. Taylor, Sheatsley, & Greeley, 1978). However, despite these rapid changes, Whites Americans' negative feelings toward African Americans appear to be lingering (Gaertner & Dovidio, 1986), and new, more covert negative beliefs regarding African Americans are replacing the old-fashioned beliefs (Kinder & Sears, 1981; McConahay, 1986; McConahay & Hough, 1976).

How do we eliminate prejudice if attacking people's negative stereotypes are ultimately ineffective? One possibility is to promote the recategorization of outgroup members as members of a larger, superordinate ingroup (Dovidio & Gaertner, 1993). In research by Gaertner, Mann, Dovidio, Murrell, & Pomare (1990), outgroup members were evaluated more positively when both ingroup members and outgroup members were alternately seated around a table and asked to work together on a superordinate task. Gaertner et al. showed that this cooperation between the ingroup and the outgroup promoted more positive feelings for the outgroup by eliminating the perception of two groups and creating the perception of a single group. This approach is also consistent with Phillip and Ziller's (1997) recent theory on the nature of nonprejudice and tolerance. According to this theory, nonprejudice results from the perception that other groups are more similar to the self than they are different. As such, nonprejudiced individuals may initially perceive members of other groups as belonging to a larger ingroup (e.g., human kind) rather than separate outgroups.

Although recategorization promises to be an effective strategy for reducing or even eliminating prejudice, caution should be taken on the implication of this approach

outside the laboratory. Realistically, teaching people not to utilize habitual and automatic categories such as race, gender, and age may be difficult if not impossible (Fiske & Taylor, 1991). Furthermore, previous research has shown that cooperation between groups may fail to reduce prejudice if the groups are of unequal status or size (Stephan, 1985). The aim of future research will be to examine further the utility of recategorization as a means of reducing prejudice, as well as explore other possible strategies.

In conclusion, this dissertation is only the first step in a line of research examining the processes by which feelings toward the outgroup influence the formation of an outgroup stereotype and the effective strategies for reducing or eliminating prejudice. Given the current lack of research directly examining the influence of prejudice on stereotyping, it is my hope that this dissertation inaugurates a new and fruitful area of study for myself and other researchers.

APPENDIX A
TRIVIA QUESTIONS

<u>Difficult Questions</u>

1. How many days does a typical May fly live? <u>one</u>

2. What's the capital of Norway? <u>Oslo</u>*

3. What painter's works included <u>Potato Eaters</u>, <u>Cypress Road</u>, and <u>Starry Night</u>?
    <u>Vincent Van Gogh</u>

4. What is the boundary between two air masses called? <u>a front</u>*

5. How many points are their on the Statue of Liberty's crown? <u>seven</u>

6. What baseball player was nicknamed *The Georgia Peach*? <u>Ty Cobb</u>*

7. What religious movement did Joseph Smith found? <u>Mormonism</u>*

8. What is a mandrill? <u>a baboon</u>

9. How many Russians have landed on the moon? <u>zero</u>

10. What newspaper's motto is: "All the news that's fit to print"? <u>The New York Times</u>*

11. Who developed the first polio vaccine? <u>Dr. Jonas E. Salk</u>*

12. Which U. S. President bought the Louisiana Territory from France? <u>Thomas
    Jefferson</u>

<u>Easy Questions</u>

1. In what state is Lake Okeechobee? <u>Florida</u>

2. What sport is played in a World Series game? <u>baseball</u>

3. What liquid is used in a thermometer? <u>mercury</u>*

4. What part of an elephant is made of ivory? the tusks

5. What are the three forms, or states, of matter? solid, liquid, and gas

6. In what European city can you go to the top of the Eiffel Tower? Paris*

7. What is a year with 366 days called? a leap year

8. What fictional English spy uses the code name "007"? James Bond*

9. Which U. S. President was known by the initials FDR? Franklin Delenor Roosevelt

Note. Questions followed by an asterisk (*) were the actual questions answered by participants. Questions without an asterisk were selected by participants for the other group.

The paragraph in the first questionnaire described either Type C or Type D

personalities and read as follows. The traits listed in parentheses were the most frequent

positive and negative traits listed by participants during pilot testing of the behaviors.

However, the traits in parentheses were not included in the final paragraph presented to

participants in the first questionnaire.

> Type Cs/Ds are always careful not to break the rules or put themselves at risk,
> even if it means missing out on the fun sometimes (cautious/conservative). By the
> way they act, you can tell that they spend a lot of time thinking about what might
> happen or what they need to do next (organized/worried).... Type Cs/Ds rarely
> speak of their good qualities, and typically downplay their own accomplishments
> (modest/unconfident). Also, they are willing to listen to others views and are able
> to see many different perspectives, but sometimes have difficulty deciding which
> side to support (open-minded/indecisive). Believing that it is better "to turn the
> other cheek," they would rather take abuse than fight back and hurt someone
> (passive/weak). In addition, they are always looking to save money and believe
> cheaper is better, rarely buying anything unless it is on sale (thrifty/stingy).

APPENDIX C
SECOND PERSONALITY DESCRIPTION

The paragraph in the second questionnaire described either Type C or Type D

personalities and read as follows. The traits listed in parentheses were the most frequent

positive and negative traits listed by participants during pilot testing of the behaviors.

However, the traits in parentheses were not included in the final paragraph presented to

participants in the second questionnaire.

> Type Cs/Ds do not always think before they act, preferring to do things on the
> spur of the moment rather then waste time pondering the consequences
> (spontaneous/careless). When buying gifts for others, they tend to spend more
> than they can afford (generous/extravagant). Furthermore, they always express
> their true opinion, no matter the situation or who is listening (honest/rude)....
> Type Cs/Ds spend a great deal of time in search of new excitement, sometimes
> risking injury, and even death, in order to have fun (adventurous/risky). They
> usually expect only good things to happen, and are sometimes unprepared when
> things go wrong (optimistic/naive). By the way they act, you can tell that they
> think highly of themselves and their achievements (proud/conceited).

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BIOGRAPHICAL SKETCH

Kurt Boniecki was born November 13, 1968, in Chicago, Illinois, but grew up in the town of Bourbonnais, fifty miles south of the city. He attended the University of Illinois at Urbana/Champaign where he discovered his interest in social psychology, and social cognition in particular, while working as a research assistant for Dr. Bob Wyer and his graduate students. After graduating in 1991 with a Bachelor of Science degree in psychology, he moved to Gainesville, Florida, to enter the graduate program in psychology at the University of Florida. Under the early guidance of Dr. Monica Biernat and, later, Dr. Lisa M. Brown, Kurt focused his interest in social cognition on the problems of stereotyping and racial prejudice. While in Gainesville, he met his beautiful and future wife, Dee Dee. They were married on July 9, 1994. That same year, Kurt completed his Master's degree with a thesis entitled "Prejudiced and Tolerant Thought: Individual Differences in Automatic and Controlled Cognition." Kurt recently accepted a three-year, visiting professorship with the University of North Carolina at Greensboro, and he and his wife are moving there in August of 1997. At the University of North Carolina, Kurt plans to continue studying the influence of prejudice on the formation of stereotypes, as well as other research such as the development of a new racism scale applicable to college students (the Student Racism Scale), the study of the automatic nature of prejudice and stereotyping, and an examination of the self-presentational aspects of intergroup anxiety.

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Lisa M. Brown, Chairman
Assistant Professor of Psychology

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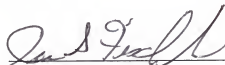
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This dissertation was submitted to the Graduate Faculty of the Department of Psychology in the College of Liberal Arts and Sciences and to the Graduate School and was accepted as partial fulfillment of the requirements for the degree of Doctor of Philosophy.

August 1997

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